SERVICE MANUAL

REAR PROJECTION TELEVISION

AV-48WP55/H, AV-56WP55/H, AV-65WP55/H

BASIC CHASSIS
RP



[AV-65WP55]

TABLE OF CONTENTS

No.YA097
2004/5

SPECIFICATION

Items		Contents		
		AV-48WP55	AV-56WP55	AV-65WP55
Dimensions (W × H × D)		120cm × 124cm × 60.8cm (47-1/4" × 49" × 24")	136.8cm × 138.6cm × 66.7cm (53-7/8" × 54-5/8" × 26-3/8")	156.6cm × 149.5cm × 72.8cm (61-3/4" × 58-7/8" × 28-3/4")
Mass		82 kg (181 lbs)	93.2 kg (205.7 lbs)	108.7 kg (239.7 lbs)
TV RF System		CCIR (M)		
Color System		NTSC		
Sound System		BTSC system (Multi Channel Sound)		
Teletext System		Closed caption (T1-T4 / CC1-CC4)		
Receiving Channels and Frequency	VHF Low VHF High UHF	02ch~06ch : 54MHz~88MHz 07ch~13ch : 174MHz~216MHz 14ch~69ch : 470MHz~806MHz		
CATV Receiving Channels and Frequency	CATV	54MHz~804MHz Low Band : 02~06 High Band : 07~13 Mid Band : A~I by 14~22 Super Band : J~W by 23~36 Hyper Band : W+1~W+28 by 37~64 Ultra Band : W+29~W+58, W+59~W+84 by 65~94, 100~125 Sub Mid Band : A-8, A-4~A-1 by 01, 96~99		
TV / CATV Total Channel		180 Channels		
Intermediate Frequency	Video IF Sound IF	45.75MHz 41.25MHz (4.5MHz)		
Color Sub Carrier		3.58MHz		
Power Input		AC 120V, 60Hz		
Power Consumption		248W (Max)		
Screen		Transparent screen (unitized fresnel lens / double lenticular lens)		
Screen Size		48" (122cm) Measured diagonally 16:9 ratio (W:106.3 cm, H:59.8 cm)	56" (142cm) Measured diagonally 16:9 ratio (W:124 cm, H:69.8 cm)	65" (165cm) Measured diagonally 16:9 ratio (W:143.9 cm, H:81.0 cm)
Projection Tube		17cm (6.7") tube × 3 (R/G/B)		
High Voltage		31kV+1.0kV/-1.3kV (at zero beam current)		
Speaker		13cm round type × 2		
Audio Power Output		10W+10W		
Antenna Terminal		75Ω unbalanced, F-type connector × 1		
External Input (1/2/3/4)	Component Video [INPUT-1/2] 720p/1080i 480i/480p S-Video [INPUT-1/3/4] Video Audio	RCA pin jack × 6 Y : 1V (p-p) (Sync signal: ±0.35V, 3-value sync.), 75Ω Pb/Pr : ±0.35V, 75Ω Y : 1V (p-p) Positive (Negative sync provided), 75Ω Pb/Pr : 0.7V, 75Ω Mini-DIN 4pin × 3 Y: 1V (p-p) positive (negative sync provided), 75Ω C: 0.286V(p-p) (burst signal) 1V (p-p) positive (negative sync provided), 75Ω (RCA pin jack × 4) 500mV(rms) (-4dBs), high impedance (RCA pin jack × 9)		
Digital Input **[AV-65WP55]**	Video Audio	HDMI connector (Digital-input terminal is not compatible with computer signal) Digital : HDMI connector Analog : 500mV(rms) (-4dBs), high impedance (RCA pin jack × 2)		
Audio Output (FIX)		500mV(rms) (-4dBs), low impedance (1kHz when modulated 100%) (RCA pin jack × 2)		
AV Compulink III		3.5mm mini jack × 1		
Remote Control Unit		RM-C1257G (AA/R6/UM-3 battery × 2)		

Design & specifications are subject to change without notice.

SECTION 1
PRECAUTION

1.1 SAFETY PRECAUTIONS

(1) The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.

(2) Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.

(3) Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (⚠) on the parts list in Service manual**. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.

(4) **Use isolation transformer when hot chassis.**
The chassis and any sub-chassis contained in some products are connected to one side of the AC power line. An isolation transformer of adequate capacity should be inserted between the product and the AC power supply point while performing any service on some products when the HOT chassis is exposed.

(5) **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**
Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED (NEUTRAL) : (⏚) side GND and EARTH : (⏚) side GND.
Don't short between the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND and never measure the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND at the same time with a measuring apparatus (oscilloscope etc.). If above note will not be kept, a fuse or any parts will be broken.

(6) If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See B1 POWER SUPPLY check).

(7) The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.

(8) Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.

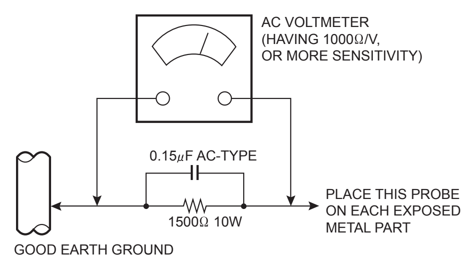
(9) When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

(10) **Isolation Check (Safety for Electrical Shock Hazard)**
After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screw heads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

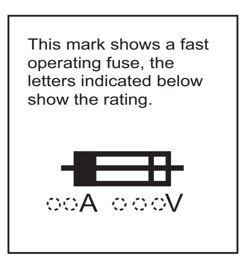
a) **Dielectric Strength Test**
The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 1100V AC (r.m.s.) for a period of one second.
(. . . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.) This method of test requires a test equipment not generally found in the service trade.

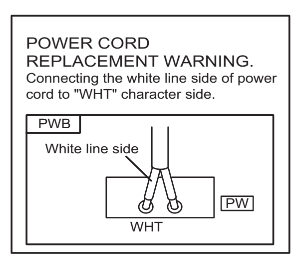
b) **Leakage Current Check**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

Alternate Check Method
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000Ω per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



(11) **High voltage hold down circuit check.**
After repair of the high voltage hold down circuit, this circuit shall be checked to operate correctly.See item **"How to check the high voltage hold down circuit"**.





1.2 INSTALLATION [AV-65WP55]

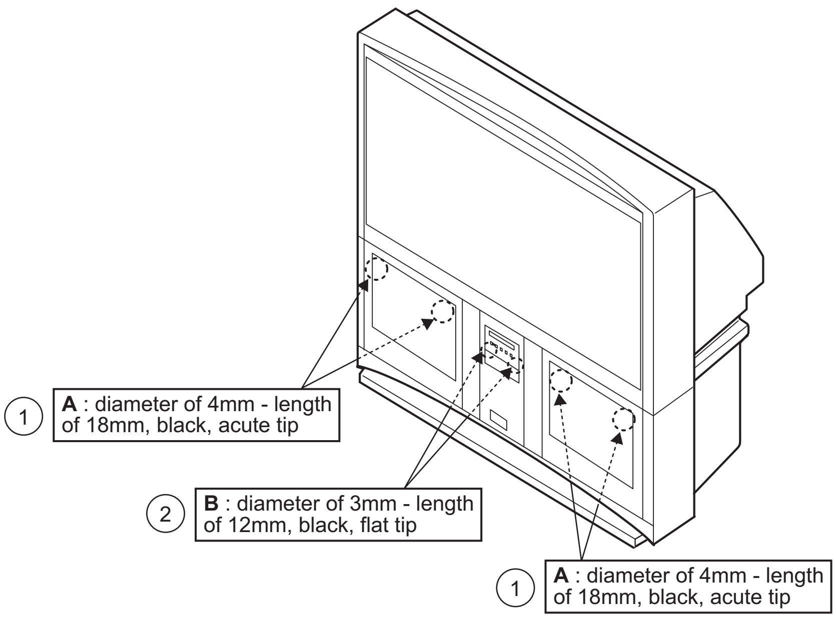
1.2.1 REMOVING THE UPPER UNIT FROM THE LOWER UNIT

1.2.1.1 TYPES AND PLACES OF SCREWS

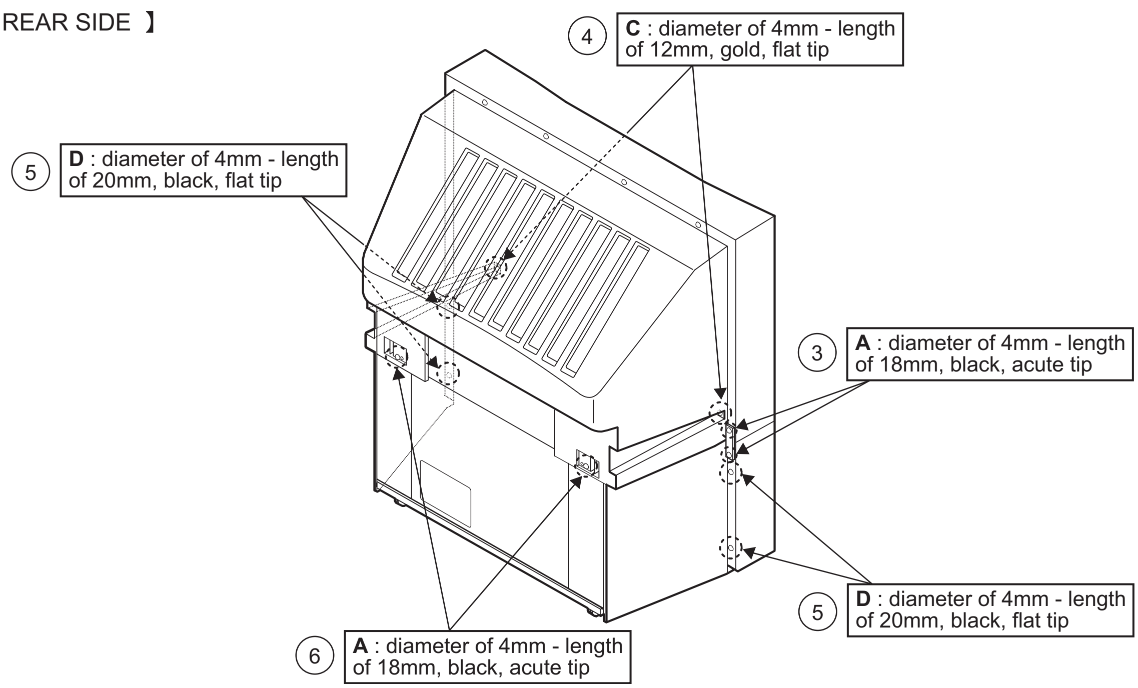
- Be careful not to confuse the following four types of screws.

Type	Ref.	Place for attaching screws	Quantity	Color	Shape	
A	①	Front panel bracket	4	Black	diameter of 4mm-length of 18mm, acute tip	
A	③	Rear cover bracket	2			
A	⑥	Rear cover (for attaching the body)	2			
B	②	Inside the Front door (in the jack part)	2	Black	diameter of 3mm-length of 12mm, flat tip	
C	④	Rear cover (for attaching the body bracket)	2	Gold	diameter of 4mm-length of 12mm, flat tip	
D	⑤	Rear cover (for attaching the speaker panel)	4	Black	diameter of 4mm-length of 20mm, flat tip	

【 FRONT SIDE 】



【 REAR SIDE 】



1.2.1.2 DISASSEMBLY PROCEDURE

- Make sure that the power cord is pulled out from the AC wall socket.
  (1) Remove the 2 screws **[A]** on the left rear side of the set, and then remove the rear cover bracket. [Fig.1]
  (2) Remove the 2 screws **[B]** inside of the front door. [Fig.2]
  * The screws attach the speaker grill.
  (3) Remove the 2 screws **[D]** on the left edge of the rear cover, and remove the 2 screws **[D]** on the right edge of the rear cover. [Fig.2]
  * The screws attach the speaker grill.
  (4) Pull the speaker grill in front direction, and remove the speaker grill. [Fig.2]
  (5) Remove the 2 screws **[A]** on the left front panel bracket, and remove the 2 screws **[A]** on the right front panel bracket. [Fig.2]
  (6) Remove 1 screw **[C]** on the left edge of the rear cover, and 1 screw **[C]** on the right edge of the rear cover. [Fig.3]
  (7) Remove 1 screw **[A]** on the left side of the rear cover, and remove 1 screw **[A]** on the right side of the rear cover. [Fig.3]
  (8) Move the rear cover approx. 3cm in rear direction. Then, remove the upper unit from the lower unit by lifting the upper unit slowly. [Fig.3]
    - VOID seal **[a]** attached to the left front panel bracket in order to confirm that a person except JVC installation workers has disassembled the set. This seal is removed when the upper unit is removed, and the letters of "VOID" appears in the place where the seal. [Fig.2]
    - Two or more people are required to move the upper unit.
    - Reflecting mirror is attached to the upper unit. So, handle it carefully so as to protect it from shocks.
    - In placing the upper unit on the ground, be careful not to insert the connector for the auto-convergence on the right side of the upper unit between the upper unit and the ground.
    - In placing the upper unit on the ground, be careful not to insert dust inside the upper unit.
    - Be careful not to hurt yourself because metal brackets for attaching the front panel are on the ceiling part of the lower unit.
  (9) Cover the lower unit with the Top Sheet in order not to insert dust in the lower unit. Top Sheet is the one used for package. [Fig.4]

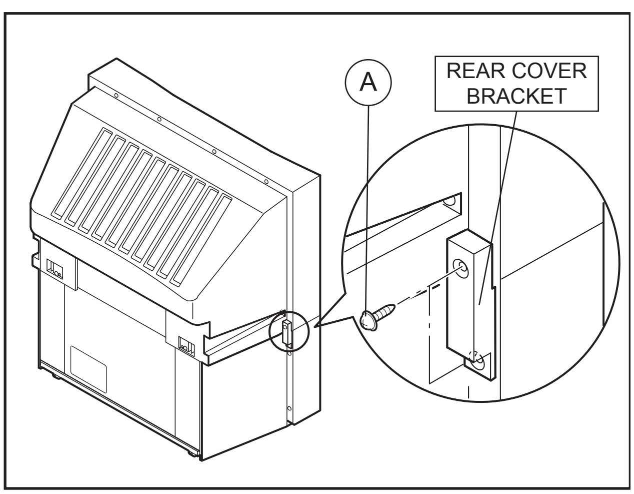


Fig.1

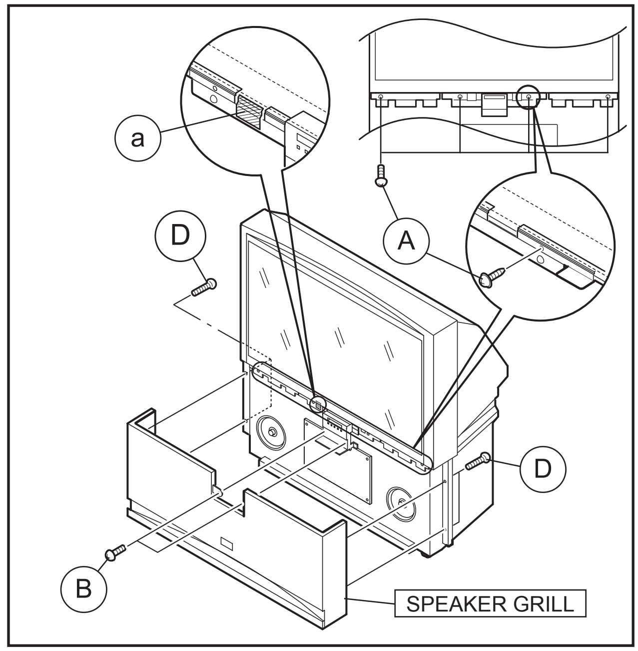


Fig.2

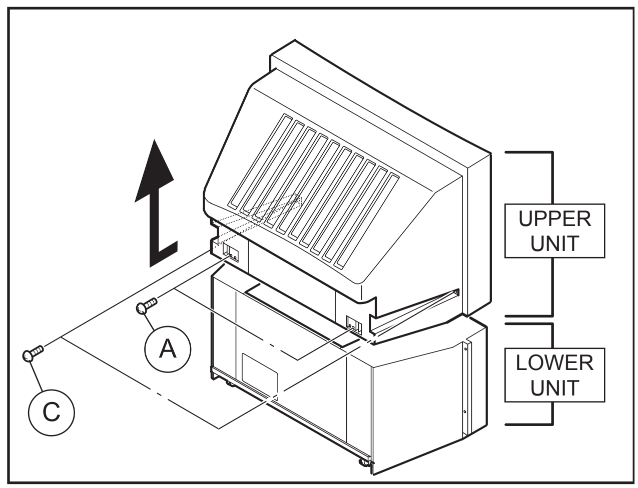


Fig.3

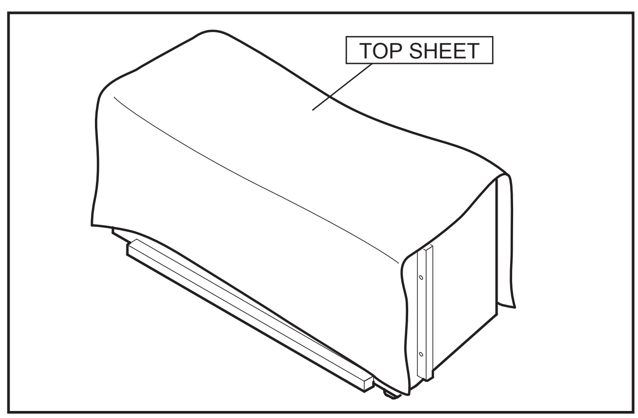


Fig.4

1.2.1.3 REASSEMBLY PROCEDURE

- Make sure that power cord is pulled out from the AC wall socket.
- Remove the Top Sheet which covers the lower unit.
  (1) Lift the upper unit slowly, and then place the upper unit on the lower unit.
    - In placing the upper unit on the lower unit, be careful not to insert the connector for the auto-convergence on the left side of the upper unit between the upper unit and the lower unit.

  (2) Adjust the front side of the upper unit to the brackets on the lower unit for attaching the upper unit.
  (3) Attach 2 screws **[A]** to the both side of the rear cover. [Fig.2]
  (4) Attach 2 screws **[A]** to the both edge of the rear cover. [Fig.2]
  (5) Attach the 4 screws **[A]** to the front panel bracket. [Fig.2]
  (6) Attach the VOID seal **[b]** on the front right side of the set to the right front panel bracket. [Fig.5]
  (7) Attach the 2 screws **[B]** to the front door. [Fig.2]
  (8) Attach the speaker grill to the front side.
  (9) Attach 4 screws **[D]** to the both edge of the rear cover. [Fig.2]
  (10) Attach the 2 screws **[B]** to the front door.[Fig.2]
    - Make sure that all the screws are attached certainly in order to fix the upper unit.
    - After assembly procedure is completed, make sure that there is no dust in the inner side of the screen.

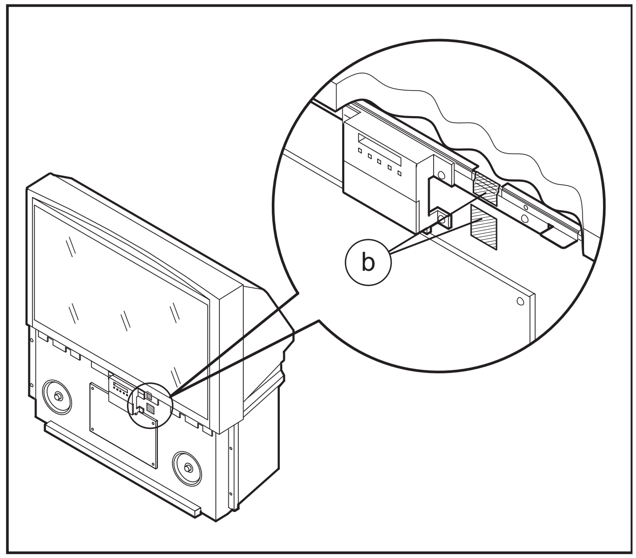
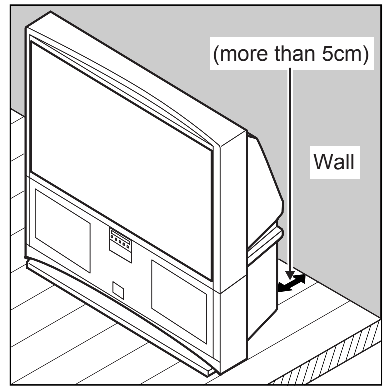


Fig.5

1.2.2 INSTALLATION SITE

(1) The rear of this set is provided with ventilation openings. Install the set more than 5 cm from a wall and in a location with good ventilation.

(2) Avoid the following types of locations.
- a) Unstable locations (location must be able to withstand heavy weight).
- b) Locations subjected to direct sunlight.
- c) Near stoves or other heating devices.
- d) Locations subjected to humidity or oily smoke.
- e) Dusty locations.
- f) Locations with strong vibration.



VENTILATION OPENING

1.2.3 INSTALLATION ADJUSTMENT

When installing, moving or changing the orientation of the set, perform static convergence adjustment according to the following procedure.
Adjusting CRT color convergence have MANUAL and RESET. It adjust on the MENU screen.

NOTE :

Please have you TV on for at least 20 minutes before sing this feature.
This adjustment will be needed only when the colors of the characters/lines are separated and lack in distinction. If not, please don't perform the adjustment.

MANUAL

(1) Press the [MENU] key, and select the "CONVERGENCE" in the INITIAL SETUP menu with [function up/down] key.
(2) Press the [function left/right] key, the CONVERGENCE menu appears.
(3) Press the [function up/down] key, and select the "MANUAL".
(4) Press the [function left/right] key, then CONVERGENCE adjustment screen appear. [Fig.1]
- If all the crosses are white, no convergence adjustment is needed.

(5) Select the location you want to adjust by using the [number (2/4/5/6/8)] keys on the remote control unit. [Fig.2]
(6) Press the [SELECT] key to change the color of the box to the color of the cross you want to adjust (red or blue).
- You cannot adjust the green cross.

(7) Use the [function up/down] key and the [function left/right] keys to adjust the position of the cross.
(8) Adjust the three colors crosses until they overlap and appear as a single white cross.
(9) Press the [OK] key.

NOTE :
- When you adjust the convergence, make sure you start with the center position (position 5), and work your way around radial for best results.
- When you make the adjustment in the center (positions 5), you are making the adjustment for the whale screen. In other positions, you are making the adjustment only in that area.
- You can reset the adjustment if you do not like the results, See below.

(10) Press the [menu] key to end the convergence adjustment procedure.

RESET

RESET in the CONVERGENCE menu resets all convergence adjustments to the factory default setting.

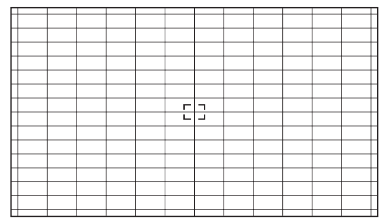


Fig.1

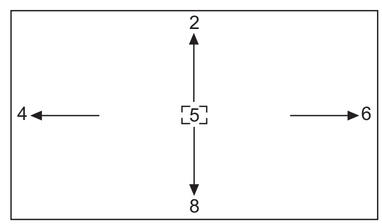


Fig.2

SECTION 2
SPECIFIC SERVICE INSTRUCTIONS

2.1 FEATURES

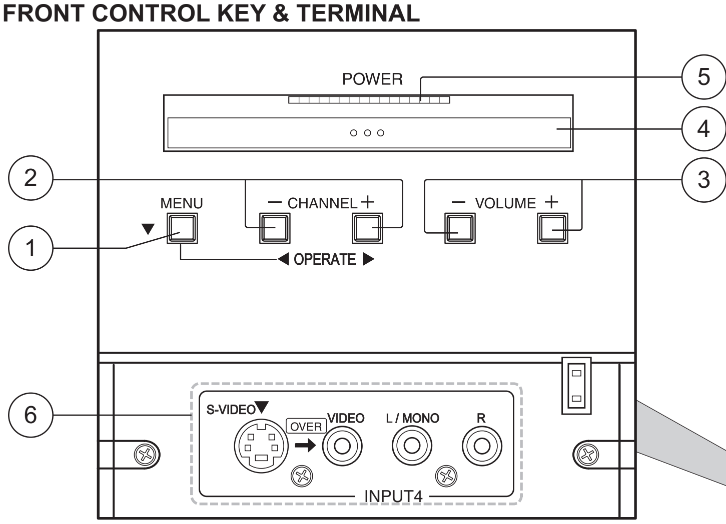
- Rear Projection HDTV.
- 3-2 PULL DOWN : You can enjoy DVD movies at the highest picture quality.
- MOTION COMPENSATION : With this function, the seamless reproduction of dynamic motion on the screen has been realized.
- Bullet-in DSD (Digital Super Detail) circuit and 3 dimension Y/C separate circuit.
- Receive DTV broadcast (1080i / 720p / 480p / 480i)
- Built-in Component (Y / Pb / Pr) input.
- Built-in A.H.S. circuit.

2.2 DIFFERENCE LIST

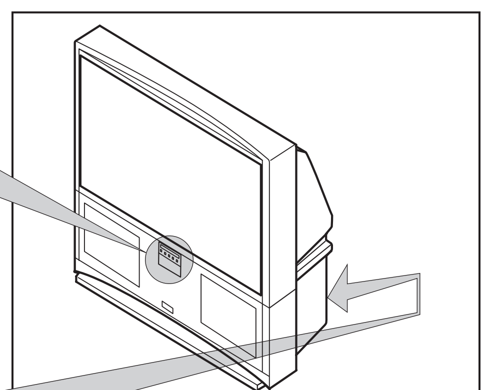
Item	AV-48WP55	AV-56WP55	AV-65WP55
DIGITAL INPUT TERMINAL	---	---	available

2.3 FUNCTIONS

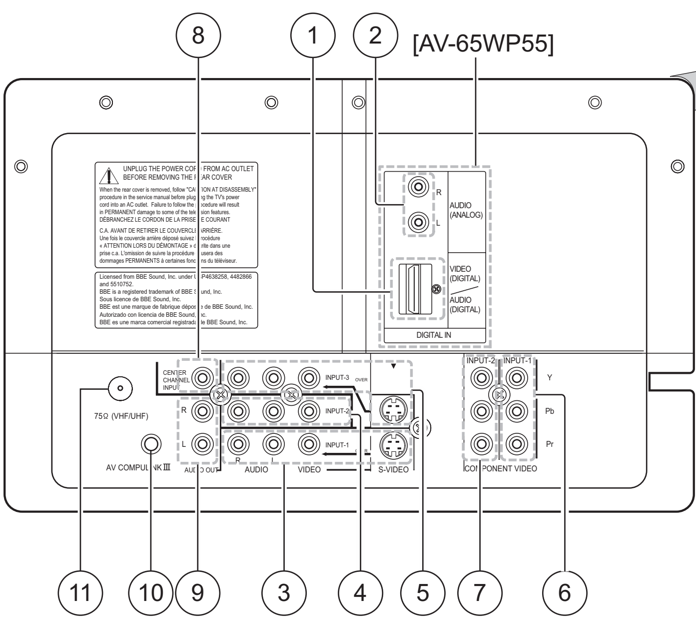
FRONT CONTROL KEY & TERMINAL



1. MENU button (OPERATE ▼)
2. CHANNERL -/+ button (OPERATE ◀/ ▶)
3. VOLUME -/+ button
4. MAIN POWER button
5. POWER LED (Blue)
6. INPUT4 terminal
(S-VIDEO / VIDEO / AUDIO)

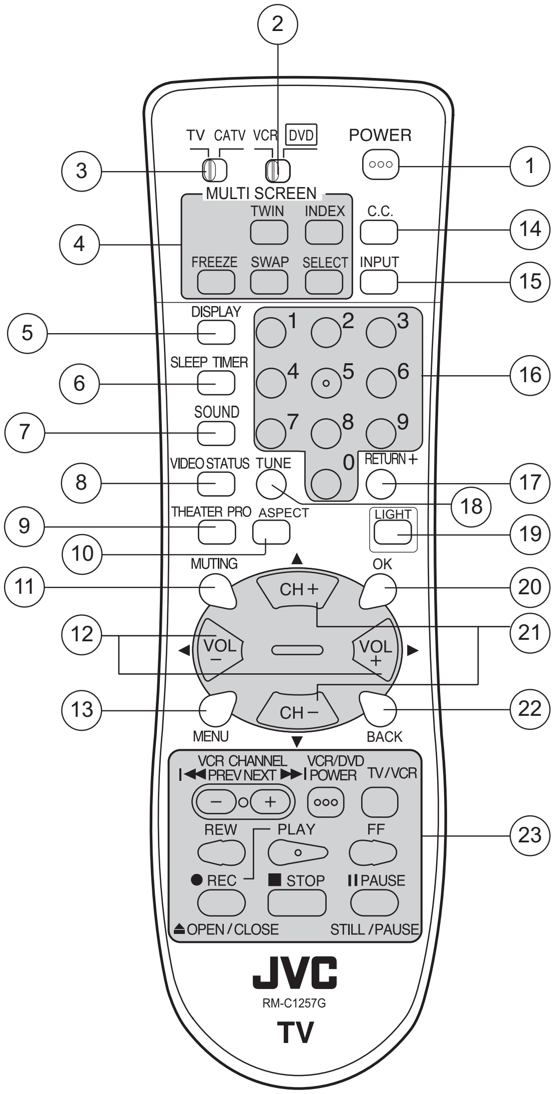


REAR TERMINAL



1. DIGITAL IN terminal [AV-65WP55]
(HDMI connector : VIDEO / AUDIO)
2. AUDIO INPUT (For DIGITAL IN) terminal [AV-65WP55]
3. INPUT-1 terminal
(S-VIDEO / VIDEO / AUDIO)
4. INPUT-2 terminal
(VIDEO / AUDIO)
5. INPUT-3 terminal
(S-VIDEO / VIDEO / AUDIO)
6. INPUT-1 COMPONENT VIDEO terminal
(Y / Pb / Pr)
7. INPUT-2 COMPONENT VIDEO terminal
(Y / Pb / Pr)
8. CENTER CHANNEL INPUT terminal
9. AUDIO OUT terminal
10. AV COMPULINK Ⅲ
11. Antenna terminal (VHF / UHF)

REMOTE CONTROL UNIT [RM-C1257G]



1	POWER key
2	VCR / DVD switch
3	TV / CATV switch
4	MULTI SCREEN operation keys
5	DISPLAY key
6	SLEEP TIMER key
7	SOUND key
8	VIDEO STATUS key
9	THEATER PRO key
10	ASPECT key
11	MUTING key (memory key)
12	VOL+/- (◀ / ▶) keys
13	MENU key
14	C.C.(Closed Caption) key
15	INPUT key
16	Number (1~0) keys
17	RETURN+ key
18	TUNE key
19	LIGHT key
20	OK key
21	CH+/- (▲ / ▼) keys
22	BACK key
23	VCR / DVD operation keys

2.4 TECHNICAL INFORMATION

2.4.1 MAIN MICRO COMPUTER (CPU) FUNCTION (MN102H75K)

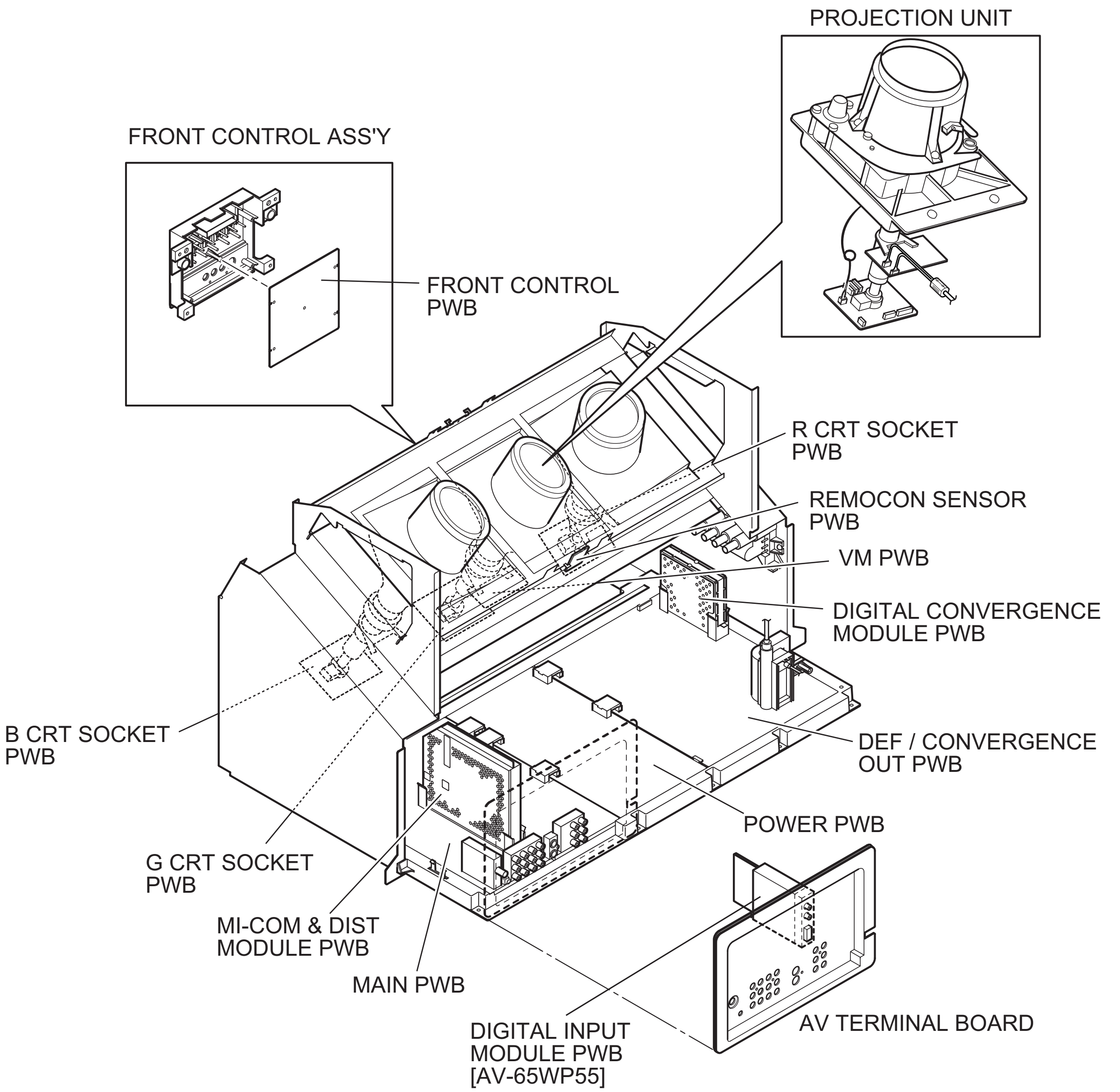
Pin No.	Pin name	I/O	Function
1	NC	O	--------
2	/MICON_V	I	V.sync for OSD
3	LB_PRO	I	Low B protection detection [Protection:H]
4	NC	-	--------
5	/RST	I	Main CPU reset [Reset:L]
6	NC	O	--------
7	/TEST	I	+3.3V
8	OSD_YS	O	OSD Ys (blanking)
9	SDA4	I/O	I^2C bus (data) for JCC5055
10	NC	O	--------
11	A_MU	O	Audio muting [Muting:H]
12	/MICON_H	I	H sync for OSD
13	NC	O	--------
14	P46,OSDXI	I	Oscillation for OSD
15	P45,OSDXO	O	Oscillation for OSD
16	SDA2	I/O	I^2C bus (data) for MTS
17	AC-IN	I	AC for timer count
18	SCL2	O	I^2C bus (clock) for MTS
19	NC	O	--------
20	VCOI	I	LPF
21	PDO	O	LPF
22	/IP_RESET	O	Reset for DIST [Reset:L]
23	OSD_YM	O	OSD Ym (transparence)
24	OSD_B	O	OSD blue
25	POWER_LED	O	Lighting for POWER LED [HIGH / ON:H]
26	OSD_G	O	OSD green
27	OSD_R	O	OSD red
28	VREF	I	Reference voltage for OSD
29	IP_ERR	I	DIST program load detect.
30	IREF	I	Reference current for OSD
31	COMP	I	Phase adjust for OSD
32	AVDD	I	+3.3V
33	CLL	I	Clamp low level
34	VREFLS	I	Reference voltage for SUB CCD
35	SUB_CCD	I	Video for sub closed caption decoder
36	NC	-	--------
37	VSS	I	GND
38	MAIN_CCD	I	Video for main closed caption decorder
39	VREFHS	I	Reference voltage for MAIN CCD
40	CLH	I	Clamp high level
41	VDD/VPP	I	+3.3V
42	SCL4	O	I^2C bus (data) for JCC5055
43	NC	O	--------
44	ON_TIM	O	Lighting for on timer operating [LOW / ON:H]
45	SBO 0	O	Convergence control [RXD]
46	SBD 0	I	Convergence control [TXD]
47	SBT1	I	--------
48	AP_DATA	-	--------
49	BS_RST	-	--------
50	SQR	-	--------
51	BS1.5CTL	-	--------
52	NC	O	--------
53	NC	O	--------
54	DC_COTL	O	Black level DC reproduce control
55	NC	O	--------
56	NC	O	--------
57	NC	O	--------
58	/LOB_POW	O	LowB power control [Power on:L]
59	COMPULINK	I	AV COMPULINK III control
60	/POWERGOOD	I	Power condition check
61	/MECA_ON	I	Machine SW interrupt [Pushing:L]
62	/MAIN_POW	O	Main power control [Power on :L]
63	NC	-	--------
64	/B1 POW	O	B1 power control [Power on:L]
65	AFC	I	AFT voltage
66	X_RAY	I	X-ray protection detection [Protection : 2.0V]
67	SPRIT	O	NC
68	KEY2	I	Front key scan 2 (CH+, VOL-/+)
69	KEY1	I	Front key scan 1 (MENU, CH-)
70	SCL1	O	I^2C bus (clock) for EEP-ROM
71	SDA1	I/O	I^2C bus (data) for EEP-ROM
72	REMO	I	Remote control
73	NC	O	--------
74	VSS	I	GND
75	OSC2	O	4MHz oscillation for system clock
76	OSC1	I	4MHz oscillation for system clock
77	VDD	I	+3.3V
78	SCL0	O	I^2C bus (clock) for general
79	AP_CLK	O	--------
80	SDA0	I/O	I^2C bus (data) for general
81	NC	O	--------
82	NC	O	--------
83	NC	-	--------
84	P_MU	O	Picture muting [Muting:H]

2.5 MAIN PARTS LOCATION

2.5.1 PWB ASS'Y ARRANGEMENT

The PWB ASS'Y is indicated below.

PWB ASS'Y name	AV-48WP55H	AV-56WP55H	AV-65WP55H
MAIN PWB ASS'Y	SRP-1012A-M2	SRP-1013A-M2	SRP-1002A-M2
MI-COM & DIST MODULE PWB ASS'Y	SRP0D001A-M2	←	←
POWER PWB ASS'Y	SRP-9001A-M2	←	←
DEF / CONVERGENCE OUT PWB ASS'Y	SRP-2012A-M2	←	SRP-2013A-M2
DIGITAL CONVERGENCE MODULE PWB ASS'Y	SRP0K012A-M2	SRP0K013A-M2	SRP0K014A-M2
DIGITAL INPUT MODULE PWB ASS'Y	---	---	SRP-7812A-M2
FRONT CONTROL PWB ASS'Y	SRP0L012A-M2	←	←
REMOCON SENSOR PWB ASS'Y	SRP-8001A-M2	←	←
VM PWB ASS'Y	SRP-7201A-M2	←	←
R CRT SOCKET PWB ASS'Y	SRP-3101A-M2	←	←
G CRT SOCKET PWB ASS'Y	SRP-3201A-M2	←	←
B CRT SOCKET PWB ASS'Y	SRP-3301A-M2	←	←



(This figure is only MAIN UNIT)

2.6 SCREEN HANDLING CAUTIONS

2.6.1 SCREEN STORAGE

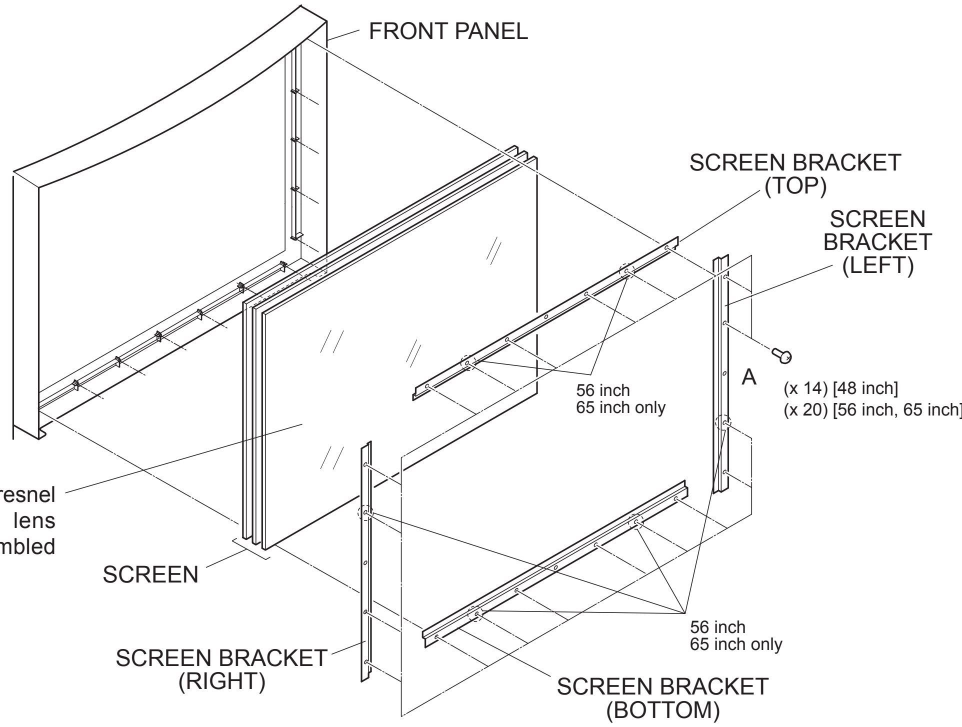
Store the SCREEN ASS'Y in a standing position in order to avoid deformation. If the screen is stored horizontally, there is risk of deforming the screen face.

When necessary to place the SCREEN ASS'Y horizontally, position the screen side upwards and sure to place spacers between the screen and resting site (floor or stand etc.) to prevent the screen from sagging.

2.6.2 SCREEN SURFACE

Since the screen surface is easily scratched or soiled, use ample care when handling.

DISASSEMBLY PROCEDURE
If the screen or screen panel need to be replaced, remove the 14 (48 inch) / 20 (56 inch, 65 inch) screws A.



Leave the screen with protector, fresnel lens and double lenticular lens attached. If cannot be disassembled further.

2.7 PROJECTION UNIT REPLACEMENT

2.7.1 ADJUSTMENT DURING REPLACEMENT

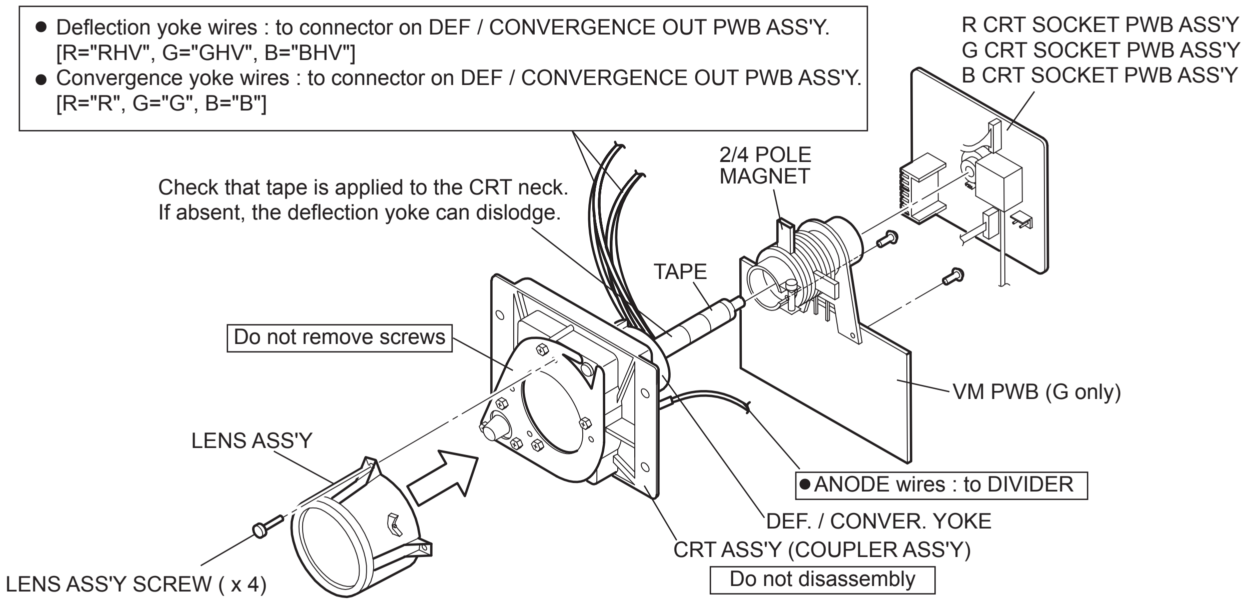
When replacing the three R, G and B projection units, first replace the R and B units and perform focus / screen / raster centering adjustments with reference to the G unit. Then replace the G unit and perform G focus / screen / convergence adjustment. Finally perform R & B . Convergence adjustments. Use care to simultaneously removes all three-projection units.

2.7.2 DISASSEMBLY CAUTION

The projection units include locations that are not to be disassembled during service. When replacing projection unit parts, disassemble to the state indicated in the figure below.

The figure indicates screws and wires that are not to be removed. Use care not to remove these.

- Deflection yoke wires : to connector on DEF / CONVERGENCE OUT PWB ASS'Y. [R="RHV", G="GHV", B="BHV"]
- Convergence yoke wires : to connector on DEF / CONVERGENCE OUT PWB ASS'Y. [R="R", G="G", B="B"]



SECTION 3
DISASSEMBLY

3.1 DISASSEMBLY PROCEDURE [AV-65WP55]

- Make sure that the power cord is pulled out from the AC wall socket.

3.1.1 SPEAKER GRILLE

(1) Remove 2 screws **[A]** from rear side.
(2) Open the door of the FRONT CONTROL BOX and remove 2 screws **[B]** from front side.
(3) Take out the SPEAKER GRILLE.

3.1.2 SPEAKER

- Take out the SPEAKER GRILLE.

(1) Remove 4 screws **[C]**.
(2) Take out the SPEAKER.
(3) Disconnect the speaker wire from speaker terminal.

*Remove the both side SPEAKER same manner.

3.1.3 FRONT BOARD

- Take out the SPEAKER GRILLE.

(1) Remove 4 screws **[D]**.
(2) Take out the FRONT BOARD.

3.1.4 FRONT CONTROL BOX

- Take out the SPEAKER GRILLE.

(1) Remove 2 screws **[E]**.
(2) Remove 2 screws **[F]**.
(3) Disconnect the connector **[BH]**, **[R]**, **[BG]** on the FRONT CONTROL PWB.
(4) Take out the FRONT CONTROL BOX.

3.1.5 FRONT CONTROL PWB

- Take out the SPEAKER GRILLE.
- Take out the FRONT CONTROL BOX.

(1) Remove 2 screws **[G]**.
(2) Remove 3 screws **[H]** from rear side of FRONT CONTROL BOX.
(3) Take out the FRONT CONTROL PWB.

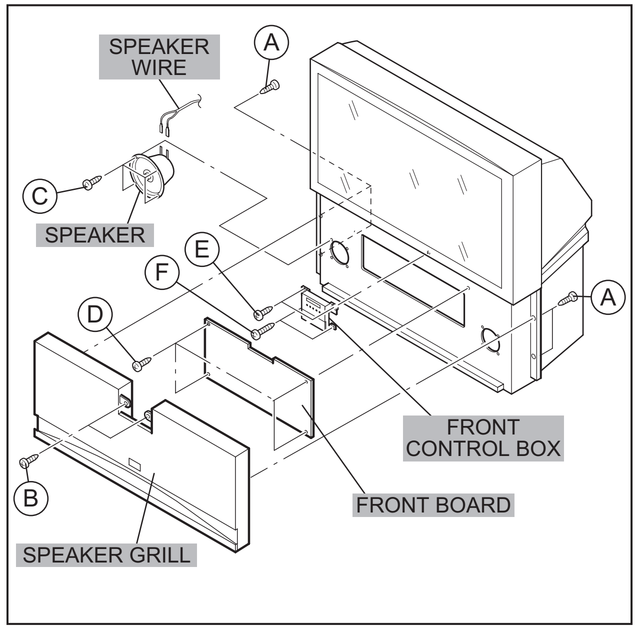


Fig.1

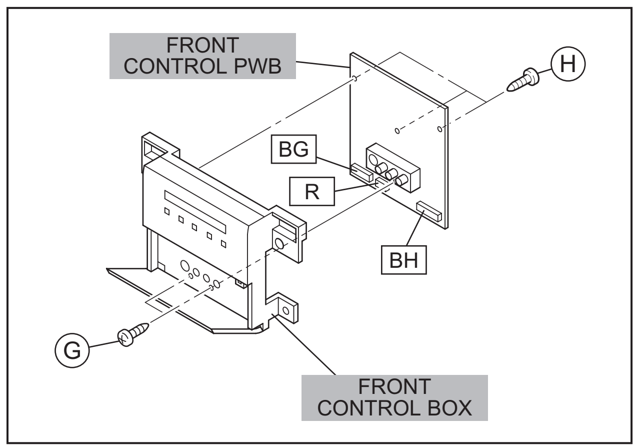
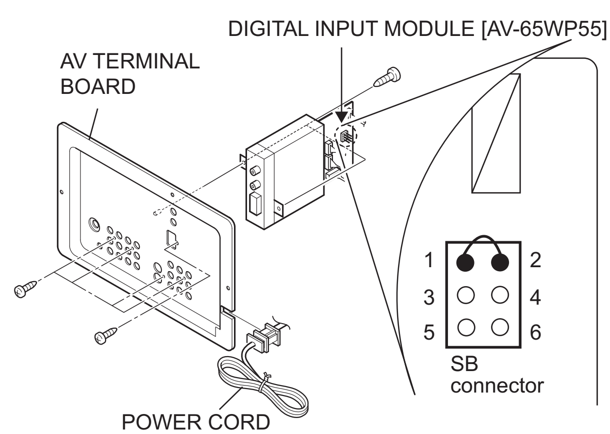


Fig.2

CAUTION AT DISASSEMBLY



- Prior to disassembly, unplug the power code from the AC outlet without fail. (Turn the power "off".)
- Short the SB connector [1] pin and [2] pin of the DIGITAL INPUT MODULE. (At the time of assembling)
- Before the rear panel is inserted into the cabinet, release the short-circuit between the SB connector [1] pin and [2] pin of the DIGITAL INPUT MODULE.
- After releasing the short-circuit between the SB connectors, do not turn the power on until the rear panel is inserted into the cabinet.

∗ Negligence in carrying out the above steps may cause the inactivation of the TV.

3.1.6 SCREEN ASS'Y

- Take out the SPEAKER GRILLE.
- Take out the FRONT CONTROL BOX.
  (1) Remove 4 screws **[I]** attaching the FRONT BRACKET.
  (2) Remove 10 screws **[J]** from rear side.
  (3) Take out the SCREEN ASS'Y.

NOTE :

- Please place the SCREEN ASS'Y on a flat table without fail.
- Because of the large size, at least two parsons are recommended for removal and reassemble.
- Use care not to scratch the screen during work.
- During assembly, be sure to engage the left and right tabs with the cabinet mounting positions.
- When than sporting the SCREEN ASS'Y, avoid grasping the top of the screen panel, instead grasp the left and right areas.

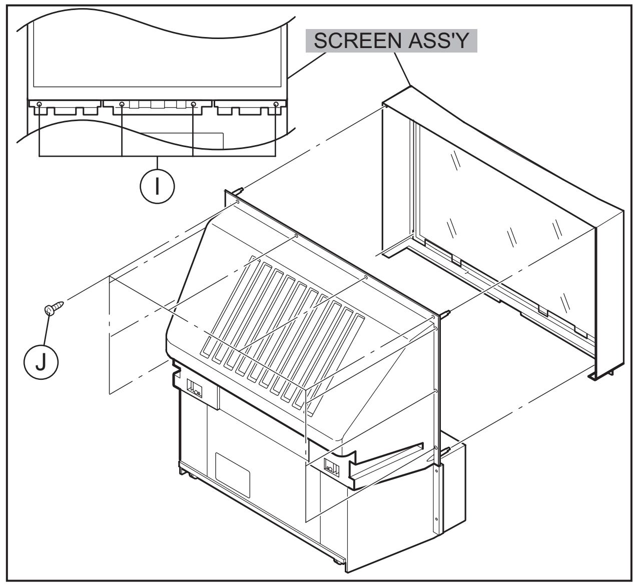


Fig.3

3.1.7 MIRROR

- Take out the SPEAKER GRILLE.
- Take out the FRONT CONTROL BOX.
- Take out the SCREEN ASS'Y.
  (1) Remove 10 screws **[K]** attaching the mirror brackets of the upper, left and right side.
  (2) Raise slightly to disengage of the mirror from the bottom bracket. (If necessary, loosen the screws attaching the bottom bracket)
  (3) Take out the MIRROR.

  NOTE :
  - The MIRROR is frontcoated. Do not touch the front of the MIRROR.
  - At least 2 persons are recommended for removable and reassemble.

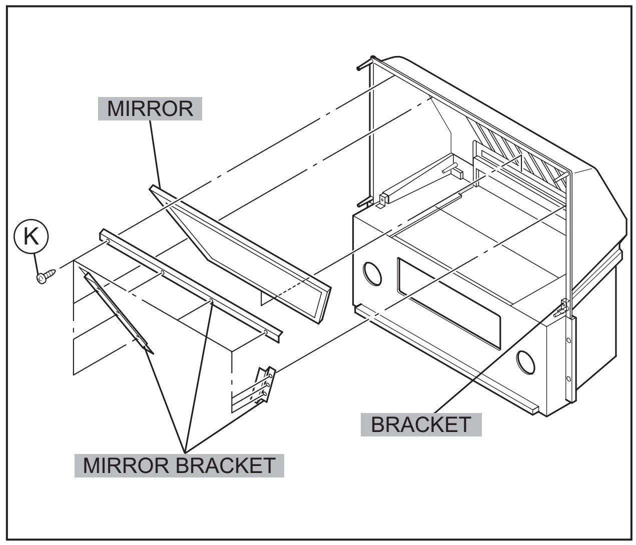


Fig.4

3.1.8 REAR PANEL

(1) Remove 3 screws **[L]**.
(2) Remove 4 screws **[M]**.
(3) Take out the REAR PANEL.

NOTE :

- Before the rear panel is inserted into the cabinet, release the short-circuit between the [SB] connector (1) pin and (2) pin of the DIGITAL INPUT UNIT. (Refer to "CAUTION AT DISASSEMBLY" on Page 13).
- After releasing the short-circuit between the [SB] connectors, do not turn the power on until the rear panel is inserted into the cabinet.
- Prior to starting the work, be sure to read the following written instructions on the CAUTION LABEL attached to the REAR PANEL.

> ⚠**Prior to starting the work, be sure to read the following written instructions on the CAUTION LABEL attached to the REAR PANEL.**
> UNPLUG THE POWER CORD FROM AC OUTLET BEFORE OPEN THE REAR COVER (PANEL).
> When the rear cover (panel) is removed, follow "CAUTION AT DISASSEMBLY" procedure in the service manual before plugging the TV's power cord into an AC outlet.
> Failure to follow the procedure will result in PERMANENT damage to some of the television features.

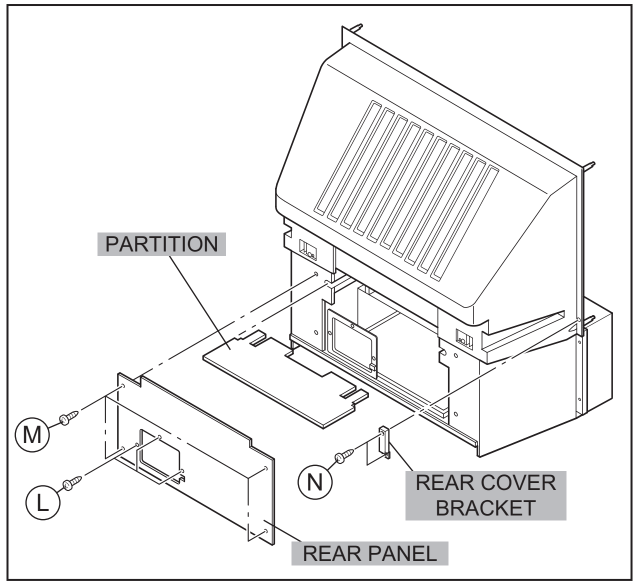


Fig.5

3.1.9 PARTITION

- Take out the REAR PANEL.
  (1) Pull out the PARTITION backward.

3.1.10 REAR COVER

- Take out the SPEAKER GRILLE.
- Take out the FRONT CONTROL BOX.
- Take out the SCREEN ASS'Y.
  (1) Remove 2 screws **[N]**.
  (2) Take out the REAR COVER BRACKET.
  (3) Remove 2 screws **[O]**.
  (4) Remove 2 screws **[P]** from front side.
  (5) Slightly pull for backside to disengage of the REAR COVER from hooks.
  (6) Take out the REAR COVER.

NOTE :

- Because of the large size, at least two persons are recommended for removal and reassemble.

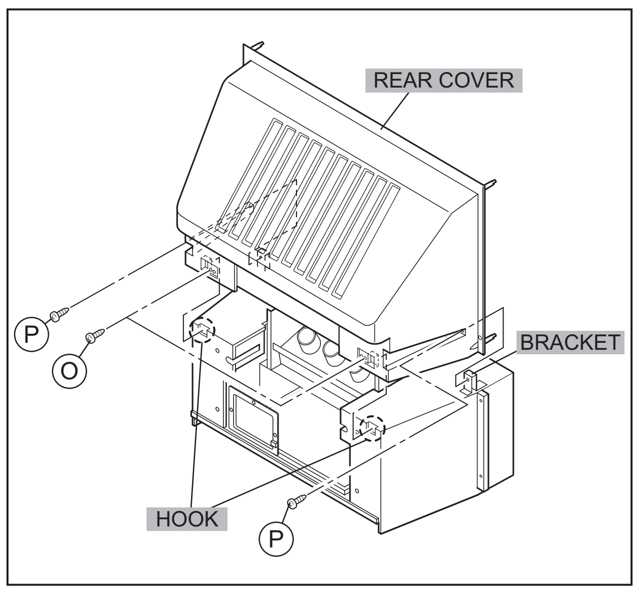


Fig.6

3.1.11 MAIN UNIT

- Take out the SPEAKER GRILLE.
- Take out the FRONT PANEL.
- Take out the REAR PANEL.
  (1) Remove 4 screws **[Q]** from front side.
  (2) Take out the connector **[BH]**, **[R]**, **[BG]** on the FRONT CONTROL PWB.
  (3) Remove 2 screws **[R]** attaching the MAIN CHASSIS and BODY.
  (4) Pull out the MAIN UNIT rear side.

NOTE :

- Except for confirmation of projection of images on the screen and audio output through the speakers, the removed MAIN UNIT is still workable in the same state as if it is still built in the TV set. Therefore, the MAIN UNIT can be removed, if necessary, for board diagnosis, electric testing, etc. apart from confirmation of screen images and audio output.
- When wire clamps are removed during work, use care to restore them precisely to their original positions. Performance can be affected if these are not returned to the original positions.
- Because of the large size, at least two persons are recommended for removal and reassemble.
- When carrying the MAIN UNIT, use care not to drop, shock or shake it.
- Do not stain or damage the lens of the PROJECTION UNIT.
- Do not look the projection side of a PROJECTION UNIT when the image is projected.

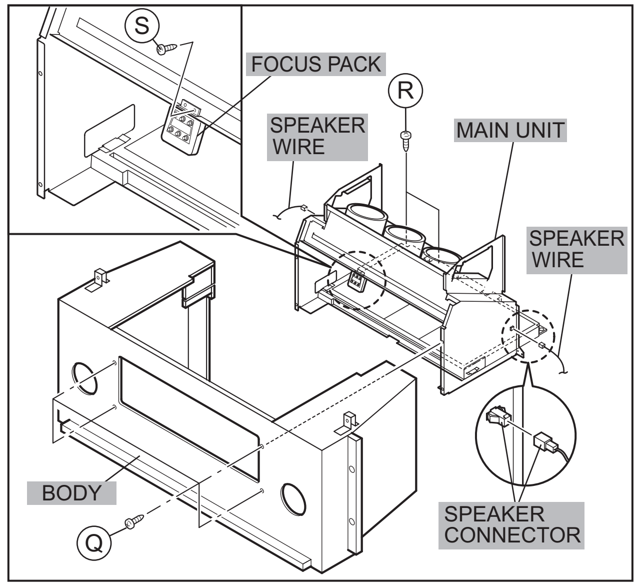


Fig.7

3.1.11.1 CHECKING THE P.W. BOARD

When checking the MAIN PWB, POWER PWB, DEF & CONVERGENCE OUT PWB, etc., raise the MAIN UNIT with the front side down for the make of convenience.

3.1.12 FOCUS PACK

- Take out the MAIN UNIT.
  (1) Remove 1 screw **[S]**.
  (2) Take out the FOCUS PACK.
  (3) Take out 9 wires connecting the FOCUS PACK.

3.1.13 AV TERMINAL BOARD

- Take out the REAR PANEL.
  (1) Remove 4 screws **[T]**.
  (2) Pull out the POWER CORD CLAMP from AV TERMINAL BOARD right side.
  (3) Disconnect the connector **[AU]**, **[DC]**, **[Q]** and **[SR]** on the DIGITAL INPUT MODULE PWB.
  (4) Take out the AV TERMINAL BOARD.

3.1.14 DIGITAL INPUT MODULE

- Take out the AV TERMINAL BOARD.
  (1) Remove 1 screw **[U]**.
  (2) Remove 2 screws **[V]** from rear side of the AV TERMINAL BOARD.
  (3) Take out the DIGITAL INPUT MODULE.

NOTE:

- When removing the DIGITAL INPUT MODULE, refer to the "CAUTION AT DISASSEMBLY" section on page 13.

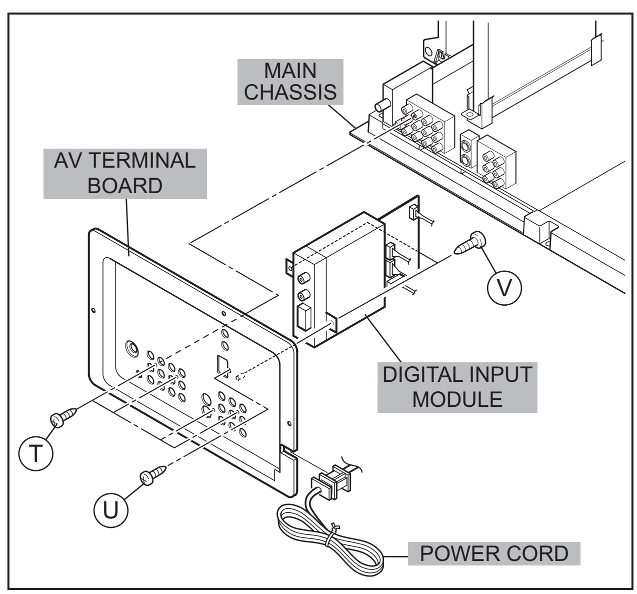


Fig.8

3.1.15 MAIN CHASSIS

- Take out the REAR PANEL.
  (1) Remove 2 screws **[W]**.
  (2) Remove 2 screws **[R]**.
  (3) Pull out the MAIN CHASSIS for backside.

  NOTE:
  - If necessary, remove the anode wires, connectors, respectively.

3.1.16 MI-COM & DIST MODULE PWB

- Take out the REAR PANEL.
- Take out the MAIN CHASSIS.
  (1) Disconnect the connector **[CN000E], [CN000Y]** on the MI-COM & DIST MODULE PWB.
  (2) Remove 2 screws **[X]**.
  (3) Take out the MI-COM & DIST MODULE PWB.

3.1.17 DIGITAL CONVERGENCE MODULE PWB

- Take out the REAR PANEL.
- Take out the MAIN CHASSIS.
  (1) Remove 2 screws **[Y]**.
  (2) Take out the DIGITAL CONVERGENCE MODULE PWB.

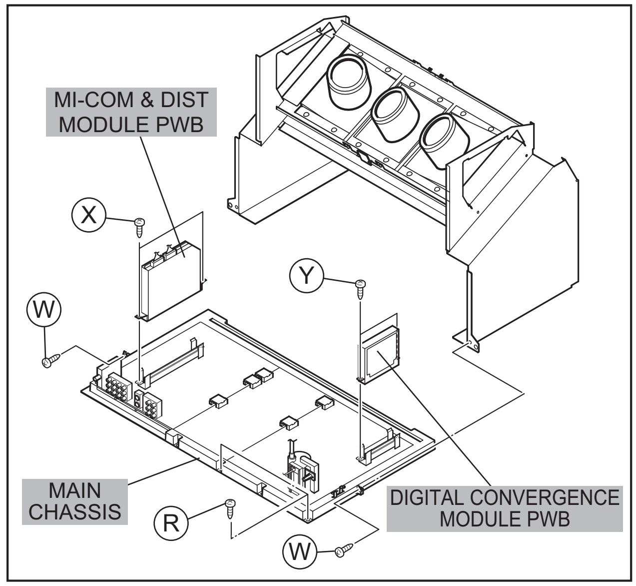


Fig.9

3.1.18 PROJECTION UNIT

- Take out the SPEAKER GRILLE.
- Take out the FRONT CONTROL BOX.
- Take out the REAR PANEL.
- Take out the MAIN UNIT.
  (1) Take out the CRT SOCKET PWB.
  (2) Remove 4 screws **[Z]**.
  (3) Pull out the PROJECTION UNIT upward.

  NOTE :
  - Refer to "PROJECTION UNIT REPLACEMENT" on page 1-12 when taking out and replacing the PROJECTION UNIT.
  - When wire clamps are removed during work, use care to restore them precisely to their original positions. Performance can be affected if these are not returned to the original positions.

3.1.19 HV DIVIDER

- Take out the REAR PANEL.
  (1) Remove 1 screw **[a]**.
  (2) Take out the HV DIVIDER.
  *Wires of the transformer (FBT) and CRT of each PROJECTION UNIT can be removed by turning the connector portions.

  NOTE :
  - If necessary, remove the anode wires, and replacing the HV DIVIDER, take care to correctly engage the connector.

3.1.20 REMOCON SENSOR PWB

- Take out the REAR PANEL.
  (1) Disconnect the connector **[R]**.
  (2) Remove 1 screw **[b]**.
  (3) Take out the REMOCON SENSOR PWB.

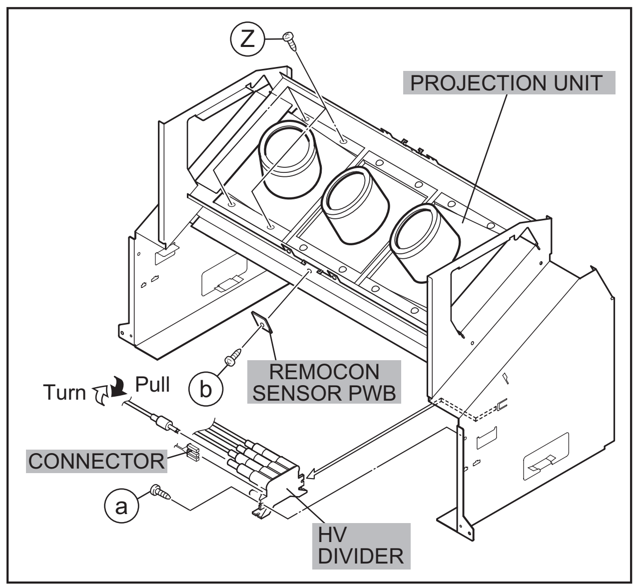


Fig.10

3.2 DISASSEMBLY PROCEDURE [AV-48WP55, AV-56WP55]

- Make sure that the power cord is pulled out from the AC wall socket.

3.2.1 SPEAKER GRILLE

(1) Remove 4 screws **[A]** from rear side.
(2) Open the door of the FRONT CONTROL BOX and remove 2 screws **[B]** from front side.
(3) Take out the SPEAKER GRILLE.

3.2.2 SPEAKER

- Take out the SPEAKER GRILLE

(1) Remove 4 screws **[C]**.
(2) Take out the SPEAKER.
(3) Disconnect the speaker wire from speaker terminal.

*Remove the both side SPEAKER same manner.

3.2.3 FRONT BOARD

- Take out the SPEAKER GRILLE.

(1) Remove 4 screws **[D]**.
(2) Take out the FRONT BOARD.

3.2.4 FRONT CONTROL BOX

- Take out the SPEAKER GRILLE.

(1) Remove 4 screws **[E]**.
(2) Disconnect the connector **[BH]**, **[R]**, **[BG]** on the FRONT CONTROL PWB.
(3) Take out the FRONT CONTROL BOX.

3.2.5 FRONT CONTROL PWB

- Take out the SPEAKER GRILLE.
- Take out the FRONT CONTROL BOX.

(1) Remove 2 screws **[F]**.
(2) Remove 3 screws **[G]** from rear side of FRONT CONTROL BOX.
(3) Take out the FRONT CONTROL PWB.

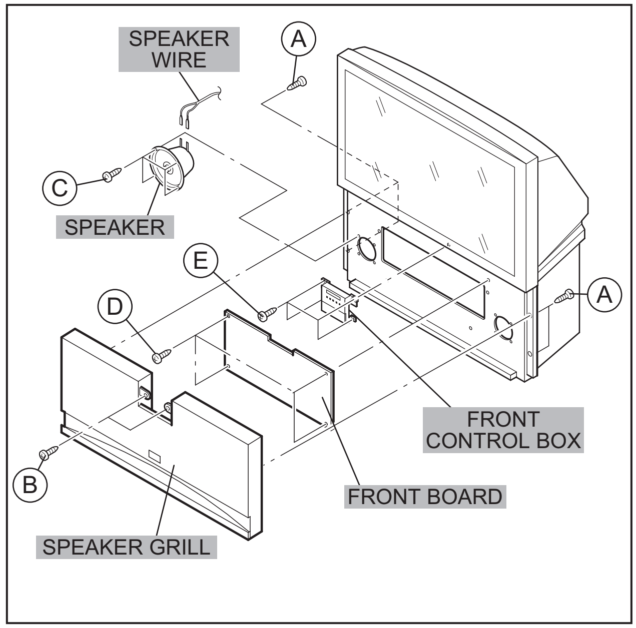


Fig.1

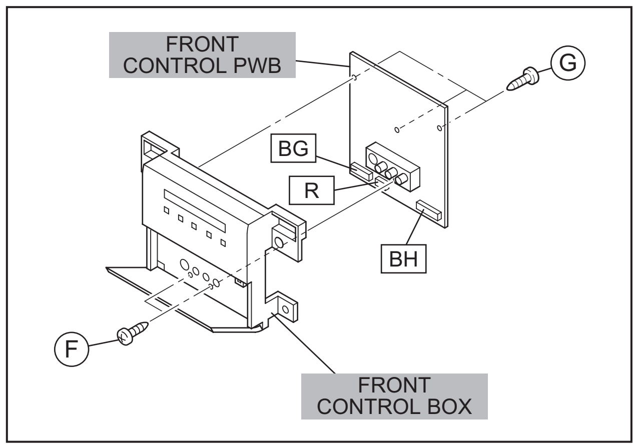


Fig.2

3.2.6 SCREEN ASS'Y

- Take out the SPEAKER GRILLE.
- Take out the FRONT CONTROL BOX.

(1) Remove 2 screws **[H]** attaching the FRONT BRACKET.
(2) Remove 10 screws **[I]** from rear side.
(3) Take out the SCREEN ASS'Y.

NOTE :

- Please place the SCREEN ASS'Y on a flat table without fail.
- Because of the large size, at least two parsons are recommended for removal and reassemble.
- Use care not to scratch the screen during work.
- During assembly, be sure to engage the left and right tabs with the cabinet mounting positions.
- When than sporting the SCREEN ASS'Y, avoid grasping the top of the screen panel, instead grasp the left and right areas.

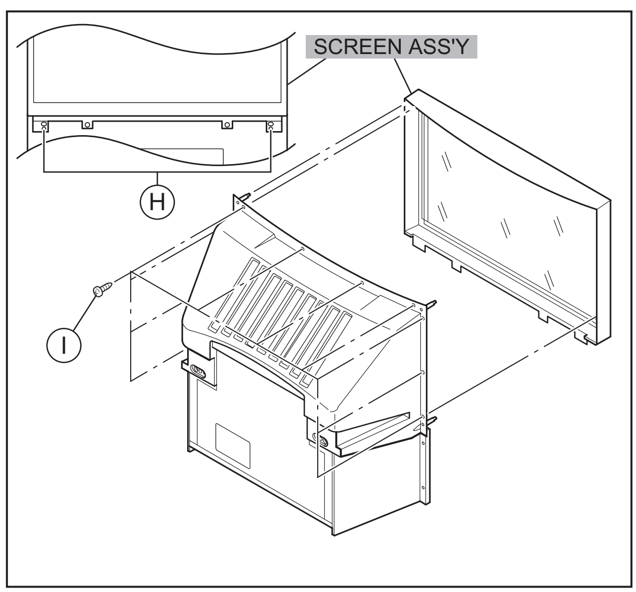


Fig.3

3.2.7 MIRROR

- Take out the SPEAKER GRILLE.
- Take out the FRONT CONTROL BOX.
- Take out the SCREEN ASS'Y.
  (1) Remove 9 screws **[J]** attaching the mirror brackets of the upper, left and right side.
  (2) Raise slightly to disengage of the mirror from the bottom bracket. (If necessary, loosen the screws attaching the bottom bracket)
  (3) Take out the MIRROR.

  NOTE :
  - The MIRROR is frontcoated. Do not touch the front of the MIRROR.
  - At least 2 persons are recommended for removable and reassemble.

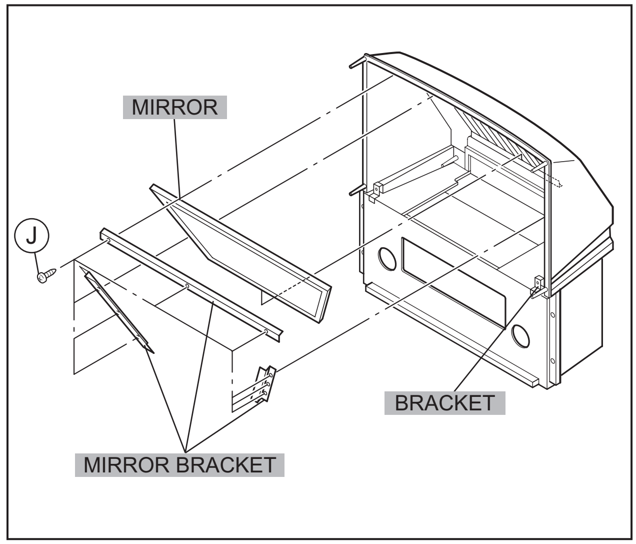


Fig.4

3.2.8 REAR PANEL

(1) Remove 6 screws **[K]**.
(2) Remove 4 screws **[L]**.
(3) Take out the REAR PANEL.

3.2.9 PARTITION

- Take out the REAR PANEL.
  (1) Pull out the PARTITION backward.

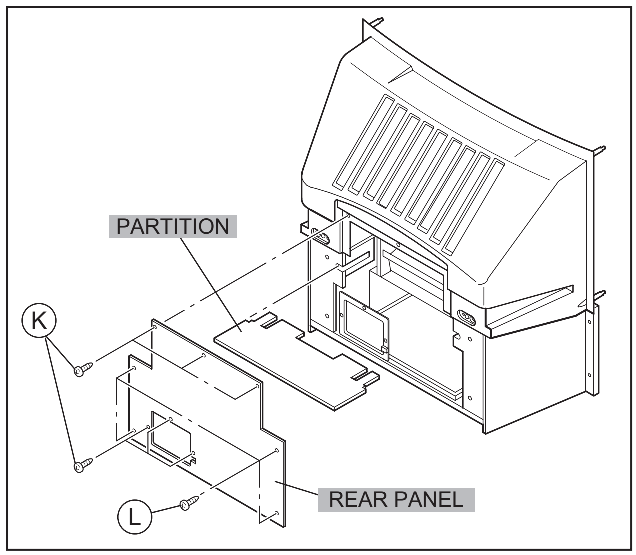


Fig.5

3.2.10 REAR COVER

- Take out the SPEAKER GRILLE.
- Take out the FRONT CONTROL BOX.
- Take out the SCREEN ASS'Y.
  (1) Remove 2 screws **[M]**.
  (2) Remove 2 screws **[N]** from front side.
  (3) Slightly pull for backside to disengage of the REAR COVER from hooks.
  (4) Take out the REAR COVER.

  NOTE :
  - Because of the large size, at least two persons are recommended for removal and reassemble.

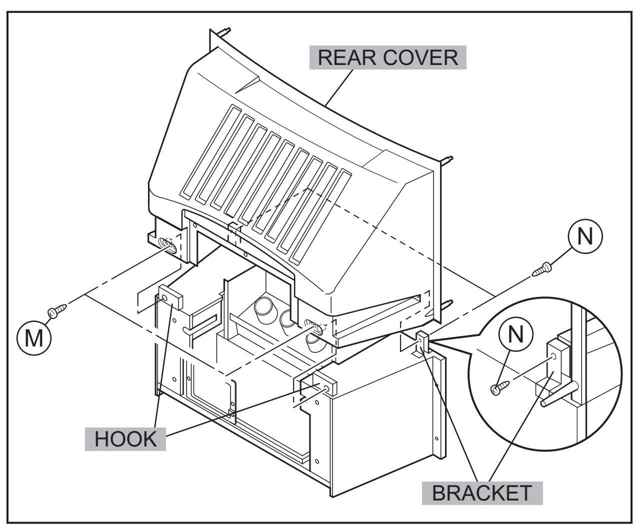


Fig.6

3.2.11 MAIN UNIT

- Take out the SPEAKER GRILLE.
- Take out the FRONT PANEL.
- Take out the REAR PANEL.
  (1) Remove 4 screws **[O]** from front side.
  (2) Take out the connector **[BH]**, **[R]**, **[BG]** on the FRONT CONTROL PWB.
  (3) Remove 2 screws **[P]** attaching the MAIN CHASSIS and BODY.
  (4) Pull out the MAIN UNIT rear side.

NOTE :

- Except for confirmation of projection of images on the screen and audio output through the speakers, the removed MAIN UNIT is still workable in the same state as if it is still built in the TV set. Therefore, the MAIN UNIT can be removed, if necessary, for board diagnosis, electric testing, etc. apart from confirmation of screen images and audio output.
- When wire clamps are removed during work, use care to restore them precisely to their original positions. Performance can be affected if these are not returned to the original positions.
- Because of the large size, at least two persons are recommended for removal and reassemble.
- When carrying the MAIN UNIT, use care not to drop, shock or shake it.
- Do not stain or damage the lens of the PROJECTION UNIT.
- Do not look the projection side of a PROJECTION UNIT when the image is projected.

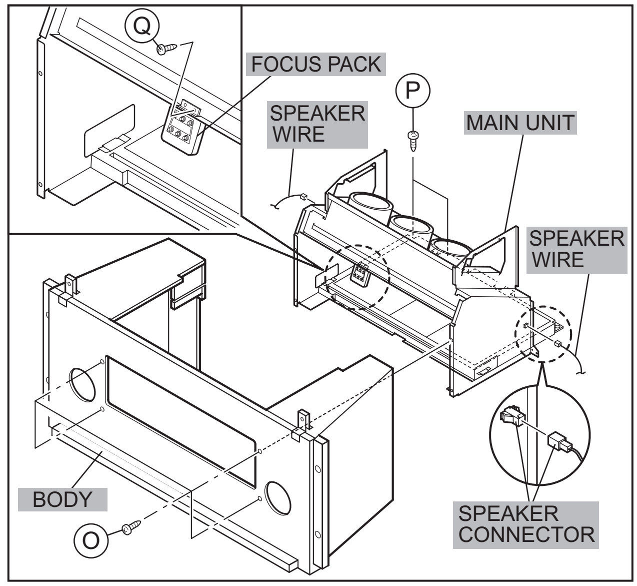


Fig.7

3.2.11.1 CHECKING THE P.W. BOARD

When checking the MAIN PWB, POWER PWB, DEF & CONVERGENCE OUT PWB, etc., raise the MAIN UNIT with the front side down for the make of convenience.

3.2.12 FOCUS PACK

- Take out the MAIN UNIT.
  (1) Remove 1 screw **[Q]**.
  (2) Take out the FOCUS PACK.
  (3) Take out 9 wires connecting the FOCUS PACK.

3.2.13 AV TERMINAL BOARD

- Take out the REAR PANEL.
  (1) Remove 4 screws **[R]**.
  (2) Pull out the POWER CORD CLAMP from AV TERMINAL BOARD right side.
  (3) Disconnect the connector **[AU]**, **[DC]**, **[Q]** and **[SR]** on the DIGITAL INPUT MODULE PWB.
  (4) Take out the AV TERMINAL BOARD.

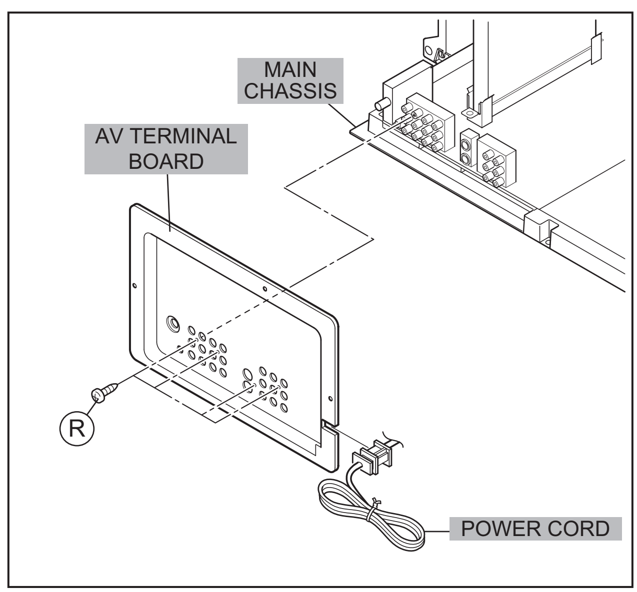


Fig.8

3.2.14 MAIN CHASSIS

- Take out the REAR PANEL.
  (1) Remove 2 screws **[S]**.
  (2) Remove 2 screws **[P]**.
  (3) Pull out the MAIN CHASSIS for backside.

  NOTE:
  If necessary, remove the anode wires, connectors, respectively.

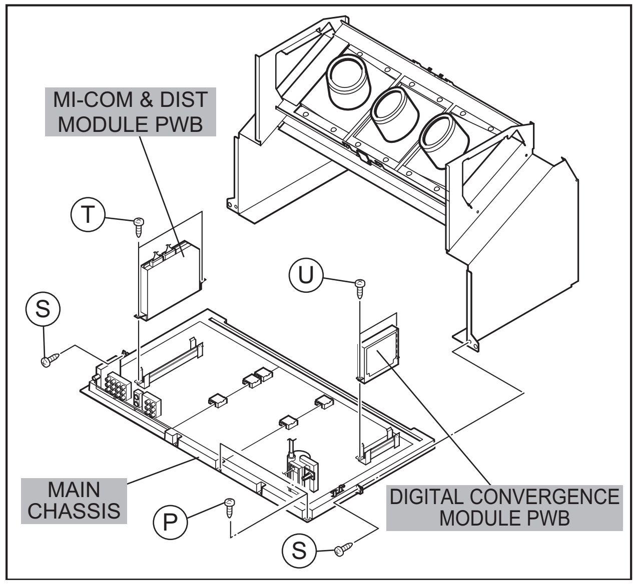


Fig.9

3.2.15 MI-COM & DIST MODULE PWB

- Take out the REAR PANEL.
- Take out the MAIN CHASSIS.
  (1) Disconnect the connector **[CN000E], [CN000Y]** on the MI-COM & DIST MODULE PWB.
  (2) Remove 2 screws **[T]**.
  (3) Take out the MI-COM & DIST MODULE PWB.

3.2.16 DIGITAL CONVERGENCE MODULE PWB

- Take out the REAR PANEL.
- Take out the MAIN CHASSIS.
  (1) Remove 2 screws **[U]**.
  (2) Take out the DIGITAL CONVERGENCE MODULE PWB.

3.2.17 PROJECTION UNIT

- Take out the SPEAKER GRILLE.
- Take out the FRONT CONTROL BOX.
- Take out the REAR PANEL.
- Take out the MAIN UNIT.
  (1) Take out the CRT SOCKET PWB.
  (2) Remove 4 screws **[V]**.
  (3) Pull out the PROJECTION UNIT upward.

  NOTE :
  - Refer to "PROJECTION UNIT REPLACEMENT" on page 1-12 when taking out and replacing the PROJECTION UNIT.
  - When wire clamps are removed during work, use care to restore them precisely to their original positions. Performance can be affected if these are not returned to the original positions.

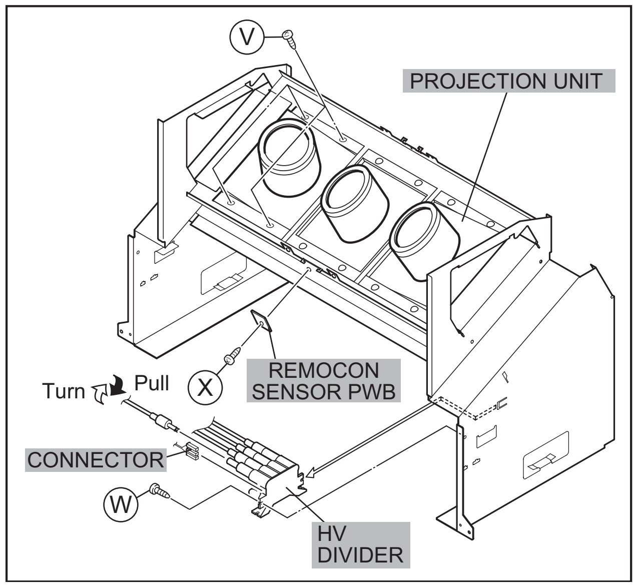


Fig.10

3.2.18 HV DIVIDER

- Take out the REAR PANEL.
  (1) Remove 1 screw **[W]**.
  (2) Take out the HV DIVIDER.
  *Wires of the transformer (FBT) and CRT of each PROJECTION UNIT can be removed by turning the connector portions.

  NOTE :
  - If necessary, remove the anode wires, and replacing the HV DIVIDER, take care to correctly engage the connector.

3.2.19 REMOCON SENSOR PWB

- Take out the REAR PANEL.
  (1) Disconnect the connector **[R]**.
  (2) Remove 1 screw **[X]**.
  (3) Take out the REMOCON SENSOR PWB.

3.3 MEMORY IC REPLACEMENT

3.3.1 MEMORY IC

This memory IC stores data for proper operation of the video and deflection circuits.
When replacing, be sure to use an IC containing this (initial value) data.

SERVICE MENU

1.PICTURE/SOUND 7.CONVER B
2.YC SEP 8.IP
3.WHITE BALANCE 9.DSD
4.MEMORY SETUP 0.HDMI
5.RF AFC
6.CONVER A

Fig.1

3.3.2 MEMORY IC REPLACEMENT PROCEDURE

(1) Power off
Switch off the power and disconnect the power cord from the wall outlet.

(2) Replace the memory IC
Initial value must be entered into the new IC.

(3) Power on
Connect the power cord to the wall outlet and switch on the power.

(4) SERVICE MENU setting
Before entering the SERVICE MENU, confirm that the setting of TV/CATV SW of the REMOTE CONTROL UNIT is at the "TV" side and the setting of VCR/DVD SW of the REMOTE CONTROL UNIT is at the "VCR" side. If the switches have not been properly set, you cannot enter the SERVICE MENU.

a) Press [SLEEP TIMER] key and, while the indication of **SLEEP TIMER 0 MIN** is being displayed, press [DISPLAY] key and [VIDEO STATUS] key (Fig.2) simultaneously.
b) The SERVICE MENU screen of Fig.1 is displayed.
c) Verify what to set in the SERVICE MENU, and set whatever is necessary (Fig.1).
Refer to the SERVICE ADJUSTMENT for setting.
d) Press the [BACK] key twice to return normal screen.

(5) Receive channel setting
Refer to the OPERATING INSTRUCTIONS (USER'S GUIDE) and set the receive channels (Channels Preset) as described.

(6) User settings
Check the user setting items according to after page.
Where these do not agree, refer to the OPERATING INSTRUCTIONS (USER'S GUIDE) and set the items as described.

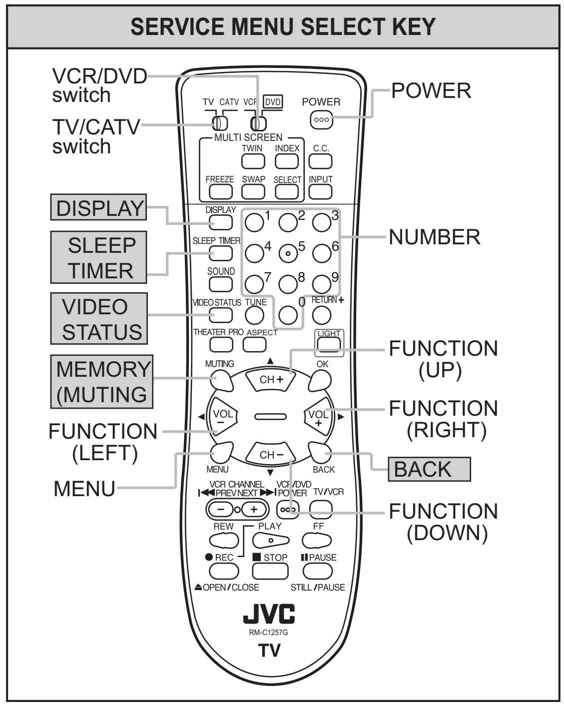


Fig.2

3.3.3 SERVICE ADJUSTMENT ITEM

Setting item	Item No.	Remark
1.PICTURE/SOUND		
AUDIO	A01~A27	
VIDEO	S01~S99	
DEFLECTION	D01~D32	
FACTORY setting	F01~F70	
2.YC SEP		
YC separation setting	YCM001~YCM185 YCS001~YCS114	Do not adjust
3.WHITE BALANCE		
LOW LIGHT/HIGH LIGHT adjustment	BR, DRV R, DRV B, CUT R, CUT G, CUT B	
4.MEMORY SETUP	------	Do not adjust
5.RF AFC		
TUNER RF AFT setting	TUNER, AFC,FINE	Do not adjust

Setting item	Item No.	Remark
6.CONVER A		
Convergence adjustment	CPA01~CPA11	Do not adjust
	CCA01~CCA12	
	CDA01~CDA07	
	CBA01~CBA94	
7.CONVER B		
Convergence adjustment	------	
8.IP		
DIST process setting	IPA001~IPA042	Do not adjust
9.DSD		
DSD process setting	DSA001~DSA053	Do not adjust
	DSB001~DSB053	
	DSC001~DSC044	
	DSD001~DSD017	
0.HDMI		
Digital input setting	HDM001~HDM080	Do not adjust
	RHD001~RHD170	

3.3.4 FACTORY SHIPPING SETTING

USER SETTING

Setting item	Setting value	Setting item	Setting value
POWER CHANNEL VOLUME INPUT	Off CABLE-02 10 TV	TINT / COLOR / PICTURE/ BRIGHT / DETAIL	Refer to setting of Video status memory at shipping factory setting
		COLOR TEMPERATURE DIG. NOISE CLEAR VSM (Velocity Scan Modulation)	LOW OFF ON
DISPLAY ASPECT VIDEO STATUS	OFF REGULAR DYNAMIC	NATURAL CINEMA BASS / TREBLE / BALANCE MTS ON / OFF TIMER LANGUAGE NOISE MUTING FRONT PANEL LOCK CLOSED CAPTION FRONT PANEL LOCK V1 SMART INPUT VIDEO INPUT LABEL	AUTO Center STEREO OFF ENG ON OFF OFF (CC1 / T1) OFF OFF BLANK
SOUND A.H.S	 OFF		
SPLIT SOURCE	LEFT SIDE : CA 02 RIGHT SIDE : INPUT1	AUTO SHUT OFF DIGITAL-IN DIGITAL AUDIO CHANNEL SUMMARY V-CHIP AUTO DEMO	OFF SIZE 1 DIGITAL Refer to Last memory (CH. summary) OFF OFF
POSITION ADJUSTMENT XDS ID CONVERGENCE POWER INDICATOR	Center ON AUTO HIGH		

VIDEO STATUS MEMORY
(NTSC / 480i / 480p)

Item	Setting value				
	TINT	COLOR	PICTURE	BRIGHT	DETAIL
STANDARD	0	0	0	0	0
THEATER	0	0	0	0	0
DYNAMIC	0	0	+10	0	+5
GAME	0	0	-10	0	0

(720p / 1080i)

Item	Setting value				
	TINT	COLOR	PICTURE	BRIGHT	DETAIL
STANDARD	0	0	0	0	0
THEATER	0	0	0	0	0
DYNAMIC	0	0	+5	0	+10
GAME	0	0	-10	0	0

CHANNEL SETTING (CHANNEL SUMMARY)

Band	CH display		Setting	Band	CH display		Setting
VHF LOW	2		USED	SUPER	N	27	NOT USED
	3		NOT USED		O	28	USED
	4		USED		P	29	NOT USED
	5		USED		Q	30	NOT USED
	6		USED		R	31	USED
VHF HIGH	7		USED		S	32	USED
	8		NOT USED		T	33	NOT USED
	9		USED		U	34	NOT USED
	10		NOT USED		V	35	NOT USED
	11		USED		W	36	USED
	12		NOT USED	SUBMID	A-7	93	NOT USED
	13		USED		A-6	94	NOT USED
UHF	14		USED		A-5	95	NOT USED
	36		USED		A-4	96	USED
	41		NOT USED		A-3	97	USED
	46		NOT USED		A-2	98	USED
	63		USED		A-1	99	NOT USED
	69		USED		A-8	01	NOT USED
MID	A	14	USED	HYPER	W+11	47	USED
	B	15	USED		W+12	48	USED
	C	16	USED		W+17	53	USED
	D	17	USED		W+23	59	USED
	E	18	USED	ULTRA	W+29	65	NOT USED
	F	19	NOT USED		W+51		NOT USED
	G	20	NOT USED		W+78		NOT USED
	H	21	USED		W+84		NOT USED
	I	22	NOT USED				
SUPER	J	23	NOT USED				
	K	24	USED				
	L	25	NOT USED				
	M	26	NOT USED				

3.4 REPLACEMENT OF CHIP COMPONENT

3.4.1 CAUTIONS

(1) Avoid heating for more than 3 seconds.
(2) Do not rub the electrodes and the resist parts of the pattern.
(3) When removing a chip part, melt the solder adequately.
(4) Do not reuse a chip part after removing it.

3.4.2 SOLDERING IRON

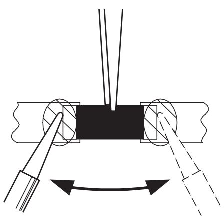
(1) Use a high insulation soldering iron with a thin pointed end of it.
(2) A 30w soldering iron is recommended for easily removing parts.

3.4.3 REPLACEMENT STEPS

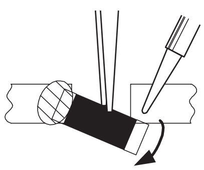
1. How to remove Chip parts

[Resistors, capacitors, etc.]

(1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.

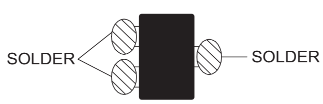


(2) Shift with the tweezers and remove the chip part.

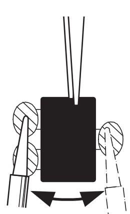


[Transistors, diodes, variable resistors, etc.]

(1) Apply extra solder to each lead.



(2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.



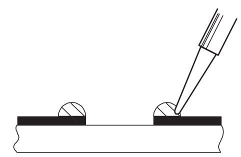
NOTE :

After removing the part, remove remaining solder from the pattern.

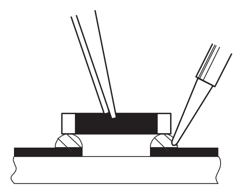
2. How to install Chip parts

[Resistors, capacitors, etc.]

(1) Apply solder to the pattern as indicated in the figure.

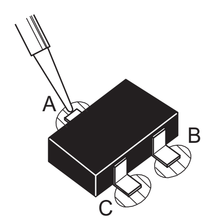


(2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

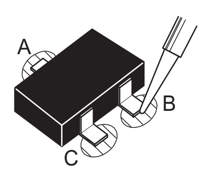


[Transistors, diodes, variable resistors, etc.]

(1) Apply solder to the pattern as indicated in the figure.
(2) Grasp the chip part with tweezers and place it on the solder.
(3) First solder lead **A** as indicated in the figure.



(4) Then solder leads **B** and **C**.



SECTION 4
ADJUSTMENT

4.1 ADJUSTMENT PREPARATION

(1) You can make the necessary adjustments for this unit with either the Remote Control Unit or with the adjustment tools and parts as given below.
(2) Adjustment with the Remote Control Unit is made on the basis of the initial setting values, however, the new setting values which set the screen to its optimum condition may differ from the initial settings.
(3) Make sure that AC power is turned on correctly.
(4) Turn on the power for set and test equipment before use, and start the adjustment procedures after waiting at least 30 minutes.
(5) Unless otherwise specified, prepare the most suitable reception or input signal for adjustment.
(6) Never touch any adjustment setting value which are not specified in the list for this adjustment.
(7) Presetting before adjustment
Unless otherwise specified in the adjustment instructions, preset the following functions with the remote control unit.

SETTING POSITION

Setting item	Setting position
VIDEO STATUS	STANDARD
TINT / COLOR / PICTURE / BRIGHT / DETAIL	0
COLOR TEMPERATURE	LOW
DIG. NOISE CLEAR	OFF
NATURAL CINEMA	AUTO
VSM	OFF
BASS / TREBLE / BALANCE	Center
A.H.S	OFF
ASPECT	FULL
VERTICAL POSITION	Center
ON/OFF TIMER	OFF
AUTO SHUTOFF	OFF

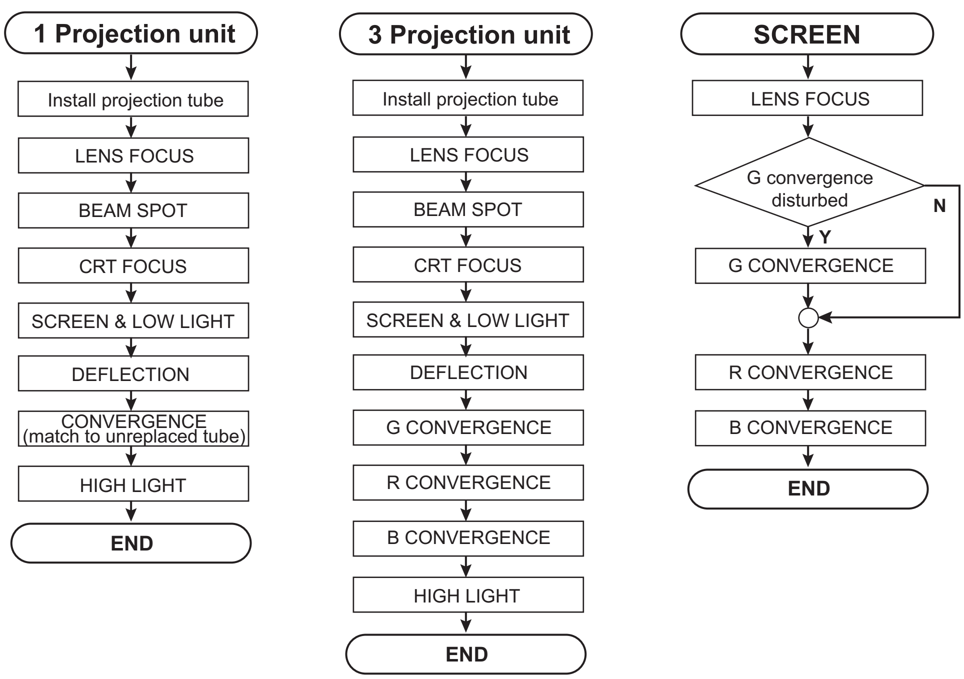
4.2 MEASURING INSTRUMENT AND FIXTURES

(1) DC voltmeter (or digital voltmeter)
(2) Oscilloscope
(3) Signal generator (Pattern generator)
[NTSC / 480i / 480p / 720p / 1080i / HDMI]
(4) TV audio multiplex signal generator
(5) Remote control unit

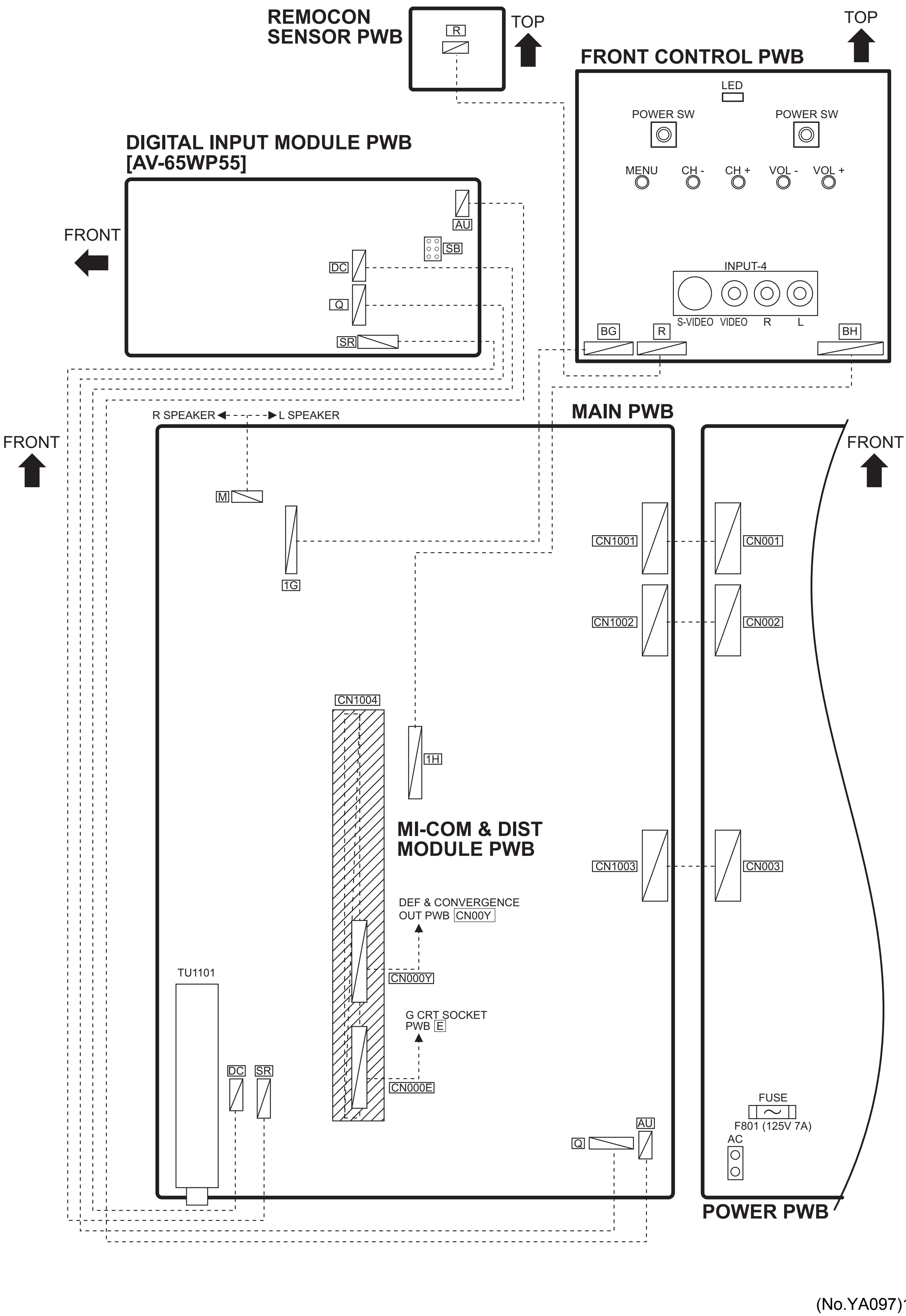
4.3 ADJUSTMENT FLOWCHART

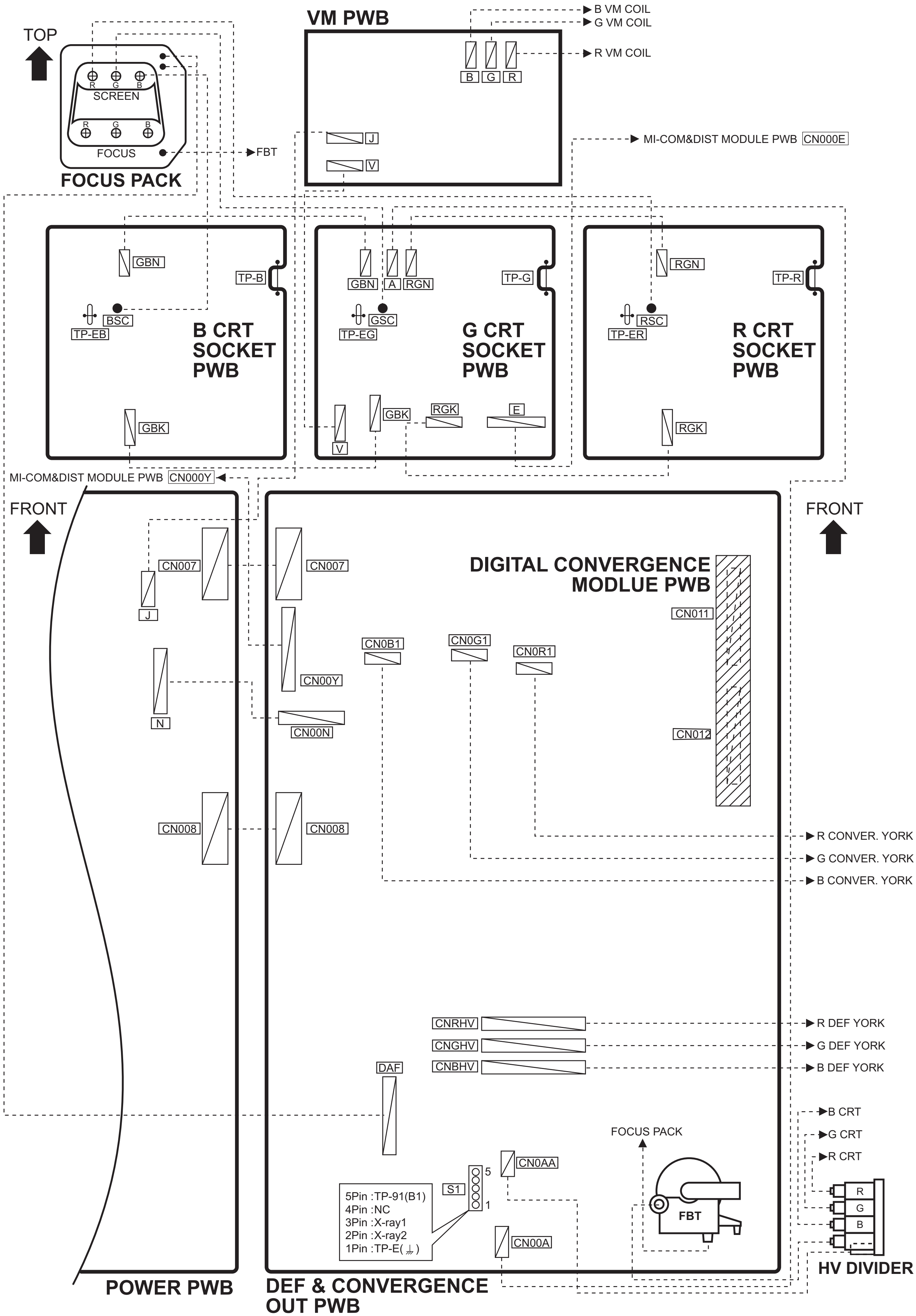
WHEN REPLACING SCREEN AND PROJECTION UNIT

- Contains only the main adjustments. Also confirm other adjustments as required.

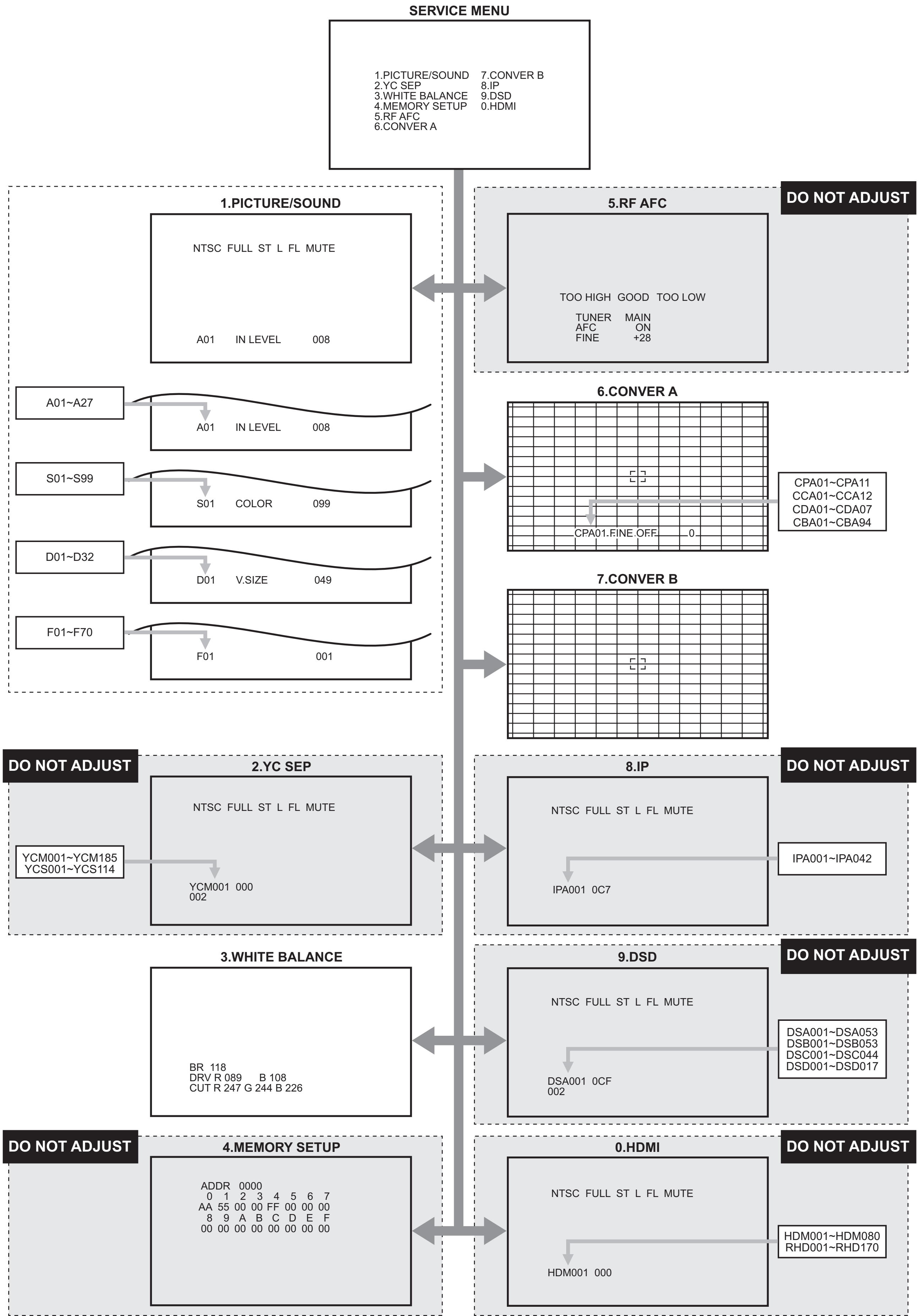


4.4 ADJUSTMENT LOCATION




TOP
FOCUS PACK
SCREEN
FOCUS
FBT
VM PWB
B VM COIL
G VM COIL
R VM COIL
MI-COM&DIST MODULE PWB CN000E
B CRT SOCKET PWB
G CRT SOCKET PWB
R CRT SOCKET PWB
GBN
TP-B
BSC
TP-EB
GBK
A
RGN
TP-G
GSC
TP-EG
RGK
E
V
J
RSC
TP-ER
TP-R
MI-COM&DIST MODULE PWB CN000Y
FRONT
DIGITAL CONVERGENCE MODLUE PWB
CN007
CN011
CN00Y
CN0B1
CN0G1
CN0R1
N
CN00N
CN012
CN008
R CONVER. YORK
G CONVER. YORK
B CONVER. YORK
CNRHV
CNGHV
CNBHV
R DEF YORK
G DEF YORK
B DEF YORK
DAF
B CRT
G CRT
R CRT
FOCUS PACK
CN0AA
S1
5Pin :TP-91(B1)
4Pin :NC
3Pin :X-ray1
2Pin :X-ray2
1Pin :TP-E(⏚)
FBT
CN00A
HV DIVIDER
POWER PWB
DEF & CONVERGENCE OUT PWB

4.5 BASIC OPERATION OF SERVICE MENU



4.5.1 TOOL OF SERVICE MENU OPERATION
Operate the SERVICE MENU with the REMOTE CONTROL UNIT.

4.5.2 SERVICE MENU ITEMS
In general, basic setting (adjustments) items or verifications are performed in the SERVICE MENU.

1.PICTURE / SOUND	This sets the setting values of the VIDEO, AUDIO and DEFLECTION circuits.
2.YC SEP	This is used when the YC SEPARATION circuit is adjusted. [Do not adjust]
3.WHITE BALANCE	This sets the setting values of the WHITE BALANCE.
4.MEMORY SETUP	This sets the setting values of the MEMORY ADDRESS. [Do not adjust]
5.RF AFC	This is used when the IF VCO is adjusted. [Do not adjust]
6.CONVER A	This is used when the CONVERGENCE is adjusted.
7.CONVER B	This is used when the CONVERGENCE is adjusted.
8.IP	This sets the setting value of the DIST circuit. [Do not adjust]
9.DSD	This sets the setting value of the DSD circuit. [Do not adjust]
0.HDMI	This sets the setting value of the DIGITAL INPUT circuit. [Do not adjust].

4.5.3 BASIC OPERATIONS OF THE SERVICE MENU

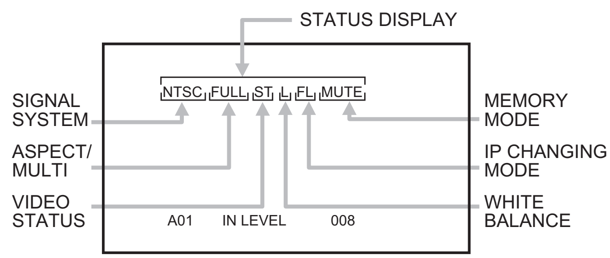
(1) How to enter the SERVICE MENU

Press [SLEEP TIMER] key and, while the indication of "SLEEP TIMER 0 MIN." is being displayed, press [DISPLAY] key and [VIDEO STATUS] key simultaneously to enter the SERVICE MENU screen.

(2) Releasing SERVICE MENU

After returning to the SERVICE MENU upon completion of the setting work, press the [BACK] key again.

4.5.4 DESCRIPTION OF STATUS DISPLAY
The status display on the upper part of the SERVICE MENU screen is common.



[1.PICTURE/SOUND]

(1) SIGNAL SYSTEM

- NTSC : Composite, S-video (Y / C), No signal.
- DVD : 480i (component)
- ED : 480p
- HD : 1080i
- 720 : 720p
- HED1 : HDMI 480p SIZE1
- HED2 : HDMI 480p SIZE2
- HHD : HDMI 1080i
- H750 : HDMI 720p

(2) ASPECT / MULTI

1) ONE SCREEN

- FULL : FULL
- PANO : PANORAMA
- CINE : CINEMA
- REGU : REGULAR

2) MULTI SCREEN

- M1 : One screen (for adjustment)
- M2-1 : TWIN (4 : 3)
- M2-2 : TWIN (16 : 9)
- M12 : INDEX

(3) VIDEO STATUS

- ST : STANDARD
- DA : DYNAMIC
- TH : THEATER
- GA : GAME

(4) WHITE BALANCE

- H : HIGH
- L : LOW

(5) IP CONVERTING MODE

- FL : FRAME
- LI : LINE
- 23 : COMPULSORY NATURAL CINEMA IN

(6) MEMORY MODE

- MUTE : Press [MUTING] key
- DIR : Change data then memory at the same time.

4.5.5 SERVICE MENU SETTING

1. PICTURE/SOUND

AUDIO / VIDEO / DEFLECTION circuit adjustment.

1. SETTING ITEM No.

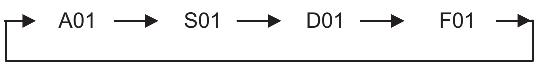
A : AUDIO
S : SIGNAL
D : DEFLECTION
F : FACTORY SETTING

- Press [CH+] / [CH-] key



Item No. is up/down

- Press [SLEEP TIMER] key

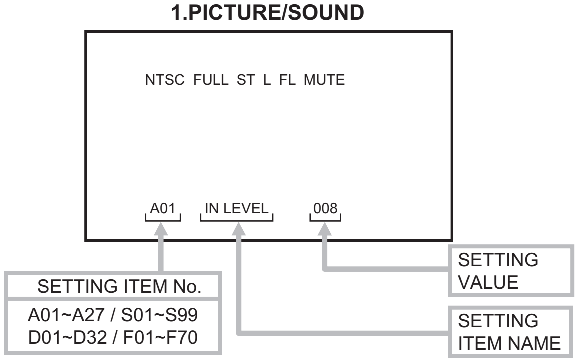


Skip change

2. SETTING ITEM NAME
Describe setting item name

3. SETTING VALUE
- Press [VOL+] / [VOL-] key
  Set the setting value.
- Press [MUTING] key
  Memorize the data.

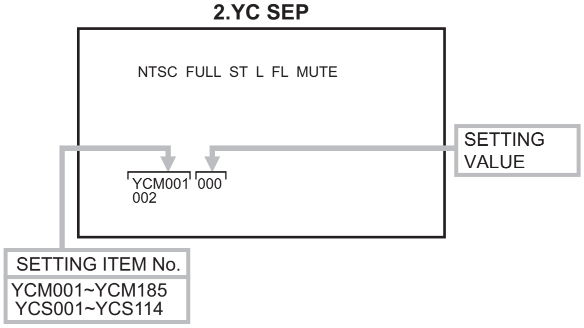
1.PICTURE/SOUND



2. YC SEP

YC separation circuit setting.
[Do not adjust]

2.YC SEP

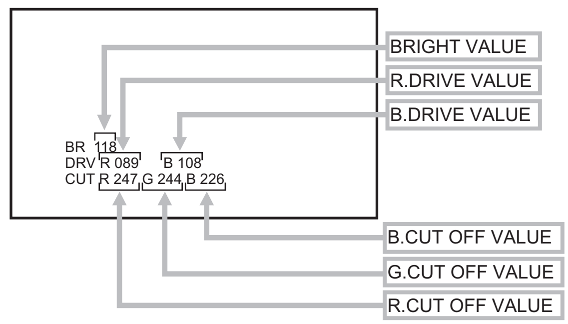


3. WHITE BALANCE

Adjustment of LOW LIGHT / HIGH LIGHT.

1. SELECT ITEM
- Press [CH+] / [CH-] key
  2. SETTING VALUE
  BRIGHT
- Press [VOL+] / [VOL-] key
  DRIVE
  [2] key : DRIVE R is up
  [5] key : DRIVE R is down
  [3] key : DRIVE B is up
  [6] key : DRIVE B is down
  CUTOFF
  [7] key : CUTOFF G is up
  [TUNE] key : CUTOFF G is down
  [8] key : CUTOFF R is up
  [0] key : CUTOFF R is down
  [9] key : CUTOFF B is up
  [RETURN+] key : CUTOFF B is down

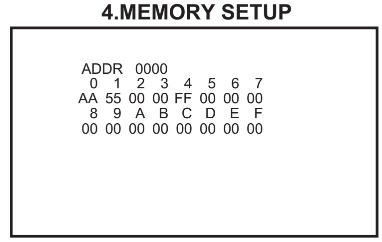
3. WHITE BALANCE



4. MEMORY SETUP

Main memory data edition.
[Do not adjust]

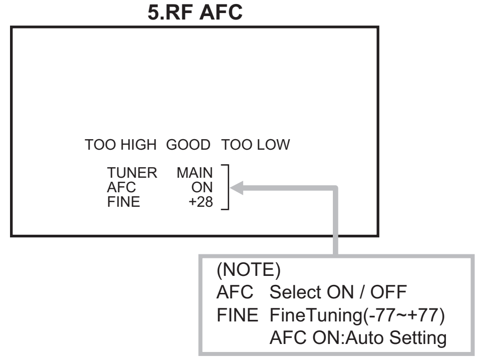
4.MEMORY SETUP



5. RF AFC

Setting the RF VCO adjustment.
[Do not adjust]

5.RF AFC

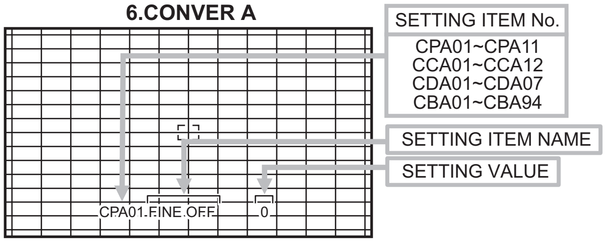


6. CONVER A

Setting the CONVERGENCE PHASE adjustment.

- Setting for 6.CONVER A is described in the CONVERGENCE adjustment.

6.CONVER A



- Press [INPUT] key

→ CPA01 → CCA01 → CDA01 → CBA01 →

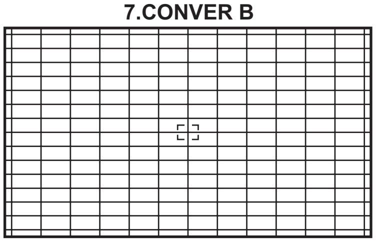
Skip change

7. CONVER B

Setting the CONVERGENCE POINT (fine).

- Setting for 7.CONVER B is described in the CONVERGENCE adjustment.

7.CONVER B

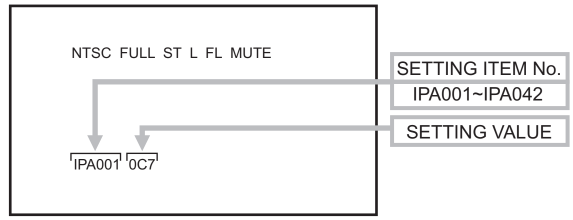


8. IP

DIST circuit data setting.

[Do not adjust]

8.IP

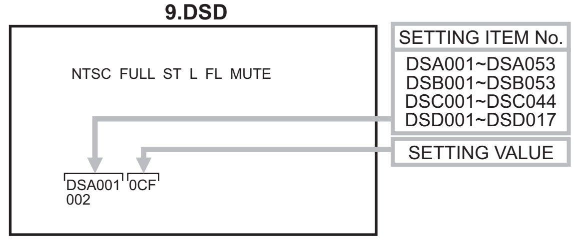


9. DSD

DSD circuit data setting.

[Do not adjust]

9.DSD



- Press [SLEEP TIMER] key

→ DSA001 → DSB001 → DSC001 → DSD001 →

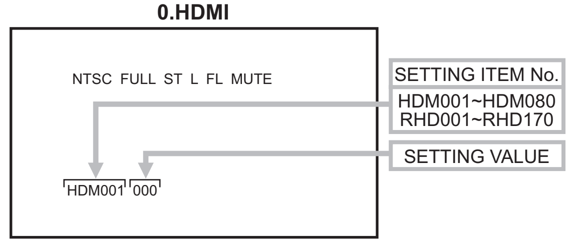
Skip change

0. HDMI

DIGITAL INPUT circuit data setting.

[Do not adjust]

0.HDMI



4.5.6 DESCRIPTION OF TEST MODE

(1) Press [SLEEP TIMER] key and set 30 minutes.

(2) While the indication "SLEEP TIMER 30 MIN." is being displayed, press [DISPLAY] key and [VIDEO STATUS] key simultaneously to enter the TEST MODE MENU screen as shown in the Fig.1.

(3) Press [5] key to enter the 5.CONVER OFF.

(4) Press [INPUT] key to select the crosshatch pattern.

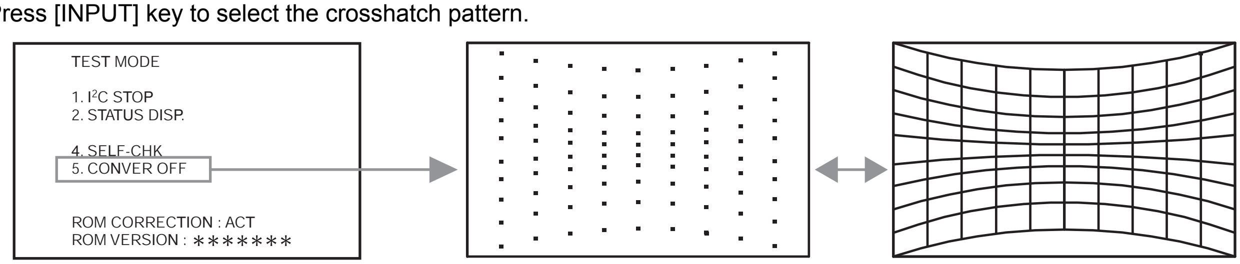


Fig. 1　　Fig. 2　　Fig. 3

4.6 INITIAL SETTING VALUE OF SERVICE MENU

(1) Adjustment of the SERVICE MENU is made on the basis of the initial setting values; however, the new setting values which set the screen in its optimum condition may differ from the initial setting.
(2) Do not change the initial setting values of the setting items NOT LISTED IN ADJUSTMENT.
(3) "---" is not adjusted. Setting value is not displayed.

CAUTION:

Never change the initial setting value any adjustments **except** for those that are designated in the adjustment procedures.
In case where you have made undesignated adjustments by mistake, never press the [MUTING] key on the remote control unit.
Whenever you had not pressed the [MUTING] key, you would be able to recover the initial value by switching the [POWER] key.

4.6.1 [1. PICTURE / SOUND]

AUDIO SYSTEM

Item No.	Item name	Variable range	Initial setting value		
			AV-48WP55	AV-56WP55	AV-65WP55
A01	IN LEVEL	000~015	008	008	008
A02	LOW SEP	000~063	035	035	035
A03	HI SEP	000~063	020	020	020
A04	BBE BASS	-128~+127	+010	+010	+010
A05	BBE TRE	-128~+127	000	000	000
A06	SURROUND	000 / 001	000	000	000
A07	BASS OFS	-128~+127	-017	-017	-017
A08	TRE OFS	-128~+127	-009	-009	-009
A09	AHS MVE	-128~+127	000	000	000
A10	AHS MSC	-128~+127	000	000	000
A11	**(Not display)**	000 / 001	000	000	000
A12	**(Not display)**	000 / 001	000	000	000
A13	**(Not display)**	000 / 001	000	000	000
A14	**(Not display)**	000 / 001	000	000	000
A15	**(Not display)**	000 / 001	000	000	000
A16	**(Not display)**	000 / 001	000	000	000
A17	**(Not display)**	000 / 001	000	000	000
A18	**(Not display)**	000 / 001	000	000	000
A19	**(Not display)**	000 / 001	000	000	000
A20	**(Not display)**	000 / 001	000	000	000
A21	**(Not display)**	000 / 001	000	000	000
A22	**(Not display)**	000 / 001	000	000	000
A23	**(Not display)**	000 / 001	000	000	000
A24	**(Not display)**	000 / 001	000	000	000
A25	**(Not display)**	000 / 001	000	000	000
A26	**(Not display)**	000 / 001	000	000	000
A27	**(Not display)**	000 / 001	000	000	000

DEFLECTION SYSTEM

Item No.	Item name	Variable range	SINGLE PICTURE (FULL)	TWIN / INDEX
D01	V. SIZE	000~127	059	059
D02	EW	000~063	033	033
D03	H. SIZE	000~063	033	033
D04	V. SCORE	000~063	040	040
D05	V. LINE	000~063	042	042
D06	V. CENT	000~063	025	025
D07	EW.TRAP	000~063	031	031
D08	BOT.CORN	000~015	008	008
D09	TOP.CORN	000~015	008	008
D10	V. EHT	000~007	005	005
D11	H. EHT	000~007	005	005
D12	**(Not display)**	000~007	006	006
D13	**(Not display)**	000~015	000	000
D14	H. CENTER	000~255	117	117
D15	H. FREQ	000~255	190	190
D16	**(Not display)**	000~127	100	100
D17	**(Not display)**	000~003	000	000
D18	**(Not display)**	000 / 001	000	000
D19	**(Not display)**	000 / 001	000	000
D20	**(Not display)**	000 / 001	000	000
D21	**(Not display)**	000 / 001	000	000
D22	**(Not display)**	000 / 001	000	000
D23	**(Not display)**	000 / 001	000	000
D24	**(Not display)**	000 / 001	000	000
D25	**(Not display)**	000 / 001	000	000
D26	**(Not display)**	000 / 001	000	000
D27	**(Not display)**	000 / 001	000	000
D28	**(Not display)**	000 / 001	000	000
D29	**(Not display)**	000 / 001	000	000
D30	**(Not display)**	000 / 001	000	000
D31	**(Not display)**	000 / 001	000	000
D32	**(Not display)**	000 / 001	000	000

VIDEO SYSTEM

(NTSC / 480i)

Item No.	Item name	Variable range	NTSC						480i					
			STANDARD			THEATER			STANDARD			THEATER		
			48"	56"	65"	48"	56"	65"	48"	56"	65"	48"	56"	65"
S01	COLOR	000~255	098	099	099	088	085	085	081	081	081	069	073	073
S02	TINT	000~255	060	059	059	052	055	055	062	064	061	060	061	061

(480p / 720p / 1080i)

Item No.	Item name	Variable range	480p						720p / 1080i					
			STANDARD			THEATER			STANDARD			THEATER		
			48"	56"	65"	48"	56"	65"	48"	56"	65"	48"	56"	65"
S01	COLOR	000~255	075	081	081	066	073	073	067	070	070	063	070	070
S02	TINT	000~255	059	058	058	059	058	058	063	063	063	057	059	059

(NTSC / 480i / 480p)

Item No.	Item name	Variable range	NTSC						480i / 480p					
			STANDARD			THEATER			STANDARD			THEATER		
			48"	56"	65"	48"	56"	65"	48"	56"	65"	48"	56"	65"
S03	BRIGHT	000~255	125	128	128	122	120	120	124	127	127	120	123	123
S04	CONTRAST	000~127	049	051	051	040	044	044	060	064	061	046	047	047

(720p / 1080i)

Item No.	Item name	Variable range	720p / 1080i					
			STANDARD			THEATER		
			48"	56"	65"	48"	56"	65"
S03	BRIGHT	000~255	127	130	130	123	125	125
S04	CONTRAST	000~127	056	066	066	044	046	046

(NTSC / 480i)

Item No.	Item name	Variable range	NTSC						480i					
			STANDARD			THEATER			STANDARD			THEATER		
			48"	56"	65"	48"	56"	65"	48"	56"	65"	48"	56"	65"
S05	0 MTX SW	000~003	000	000	000	000	000	000	000	000	000	000	000	000
S06	INPUT SW	000~003	001	001	001	001	001	001	001	001	001	001	001	001
S07	B-Y	000~063	010	010	010	020	024	024	015	011	011	026	020	020
S08	R-Y	000~015	007	007	007	000	000	000	007	007	007	000	000	000
S09	G-YMATRI	000~003	001	001	001	003	003	003	001	001	001	003	003	003

(480p / 720p / 1080i)

Item No.	Item name	Variable range	480p						720p / 1080i					
			STANDARD			THEATER			STANDARD			THEATER		
			48"	56"	65"	48"	56"	65"	48"	56"	65"	48"	56"	65"
S05	0 MTX SW	000~003	000	000	000	000	000	000	000	000	000	000	000	000
S06	INPUT SW	000~003	001	001	001	001	001	001	000	000	000	000	000	000
S07	B-Y	000~063	015	017	017	025	021	021	023	021	021	025	021	020
S08	R-Y	000~015	008	008	007	002	002	002	004	004	004	003	003	003
S09	G-YMATRI	000~003	001	001	001	003	003	003	002	002	002	002	002	002

(NTSC / 480i)

Item No.	Item name	Variable range	NTSC						480i					
			STANDARD				THEATER		STANDARD				THEATER	
			HIGH	LOW			HIGH	LOW	HIGH	LOW			HIGH	LOW
				48"	56"	65"				48"	56"	65"		
S10	DRIVE R	000~255	---	085	078	078	---	---	---	086	072	072	---	---
S11	**(Not display)**	-128 ~ +127	+004	---	---	---	+006	+014	+005	---	---	---	+006	+014
S12	DRIVE B	000~255	---	080	084	089	---	---	---	078	079	079	---	---
S13	**(Not display)**	-128 ~ +127	+004	---	---	---	-007	-022	+005	---	---	---	-007	-022

(480p / 720p / 1080i)

Item No.	Item name	Variable range	480p				720p / 1080i					
			STANDARD		THEATER		STANDARD				THEATER	
			HIGH	LOW	HIGH	LOW	HIGH	LOW			HIGH	LOW
								48"	56"	65"		
S10	DRIVE R	000~255	---	---	---	---	---	084	074	074	---	---
S11	**(Not display)**	-128 ~ +127	+003	000	000	+001	+005	---	---	---	+005	+008
S12	DRIVE B	000~255	---	---	---	---	---	078	083	083	---	---
S13	**(Not display)**	-128 ~ +127	+007	000	-005	-021	+005	---	---	---	+001	-009

(NTSC / 480i / 480p / 720p / 1080i)

Item No.	Item name	Variable range	NTSC		480i / 480p		720p / 1080i	
			STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER
S14	CUTOF R	000~255	185	---	185	---	185	---
S15	(Not display)	-128 ~ +127	---	-004	---	000	---	-008
S16	CUTOF G	000~255	185	---	185	---	185	---
S17	(Not display)	-128 ~ +127	---	000	---	000	---	000
S18	CUTOF B	000~255	185	---	185	---	185	---
S19	(Not display)	-128 ~ +127	---	-004	---	000	---	-008
S20	CUTOF SW R	000~003	001	---	001	---	001	---
S21	CUTOF SW G	000~003	001	---	001	---	001	---
S22	CUTOF SW B	000~003	001	---	001	---	001	---

(NTSC / 480i / OTHERS SIGNAL)

Item No.	Item name	Variable range	NTSC		480i		OTHERS SIGNAL	
			STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER
S23	DC CTL	000~255	255	255	255	255	255	255

Item No.	Item name	Variable range	Initial setting value
S24	RGBLIMT	000~015	000

(NTSC / 480i / OTHERS SIGNAL)

Item No.	Item name	Variable range	NTSC	480i	OTHERS SIGNAL
S25	BL STRT	000~015	015	015	015
S26	BL GAIN	000~015	008	008	008
S27	YGM LVL	000~015	000	000	000
S28	YGM GAIN	000~015	015	015	015
S29	YWD STRT	000~015	002	000	000
S30	YWD GAIN	000~015	005	002	003

Item No.	Item name	Variable range	STANDARD	THEATER
S31	COL OFST	-128~+127	---	---
S32	TNT OFST	-128~+127	---	---

(TWIN / FREEZE)

Item No.	Item name	Variable range	TWIN / FREEZE	
			STANDARD	THEATER
S33	BRT OFST	-128~+127	-002	000
S34	CNT OFST	-128~+127	-011	000

Item No.	Item name	Variable range	STANDARD	THEATER
S35	DCTRN SW	000 / 001	000	000
S36	BL OFF	000 / 001	000	001
S37	YGM OFF	000 / 001	000	001
S38	ABL OFF	000 / 001	000	000
S39	ACL OFF	000 / 001	000	000

Item No.	Item name	Variable range	Initial setting value
S40	BLCNT LK	000 / 001	000
S41	YGCNT LK	000 / 001	000
S42	DCTRN PL	000 / 001	000
S43	ABL GAIN	000~015	015
S44	ABL STRT	000~015	015
S45	ACL GAIN	000~015	015
S46	ACL STRT	000~015	000

(TWIN / REGULER / THEATER / OTHERS)

Item No.	Item name	Variable range	MULTI SCREEN	ASPECT	VIDEO STATUS	OTHERS
			TWIN	REGULAR	THEATER	
S47	ACL EERG	000~255	255	255	255	255

Item No.	Item name	Variable range	Initial setting value
S48	CHRM GM	000~255	255

Item No.	Item name	Variable range	Initial setting value
S49	OSDR DC	000~127	064
S50	OSDB DC	000~127	064
S51	BLK OFF	000 / 001	000

Item No.	Item name	Variable range	STANDARD	THEATER
S52	CNT UNDR	-128~+127	-030	-021
S53	CNT UPPR	-128~+127	+013	+020
S54	BRT UNDR	-128~+127	-020	-020

Item No.	Item name	Variable range	Initial setting value
S55	EETH BRT	-128~+127	000
S56	EETH CNT	-128~+127	000
S57	BREE CNT	000~031	000
S58	DKEE CNT	000~031	000
S59	DREE BRT	000~127	000
S60	BREE ACL	000~255	000
S61	DKEE ACL	000~255	000
S62	VMOFF DE	-128~+127	+002
S63	VM LOW	-128~+127	-025
S64	VM MID	-128~+127	-015
S65	VM HIGH	-128~+127	+010
S66	VM L-	-128~+127	-004
S67	VM LH	-128~+127	-002
S68	VM MH	-128~+127	000
S69	VM M+	-128~+127	+001
S70	BLK R	000 / 001	000
S71	BLK G	000 / 001	000
S72	BLK B	000 / 001	000
S73	**(Not display)**	000 / 001	000
S74	**(Not display)**	000 / 001	000
S75	**(Not display)**	000 / 001	000
S76	**(Not display)**	000 / 001	000
S77	**(Not display)**	000 / 001	000
S78	**(Not display)**	000 / 001	000
S79	**(Not display)**	000 / 001	000
S80	**(Not display)**	000 / 001	000

Item No.	Item name	Variable range	Initial setting value
S81	**(Not display)**	000 / 001	000
S82	**(Not display)**	000 / 001	000
S83	**(Not display)**	000 / 001	000
S84	**(Not display)**	000 / 001	000
S85	**(Not display)**	000 / 001	000
S86	**(Not display)**	000 / 001	000
S87	**(Not display)**	000 / 001	000
S88	**(Not display)**	000 / 001	000
S89	**(Not display)**	000 / 001	000
S90	**(Not display)**	000 / 001	000
S91	**(Not display)**	000 / 001	000
S92	**(Not display)**	000 / 001	000
S93	**(Not display)**	000 / 001	000
S94	**(Not display)**	000 / 001	000
S95	**(Not display)**	000 / 001	000
S96	**(Not display)**	000 / 001	000
S97	**(Not display)**	000 / 001	000
S98	**(Not display)**	000 / 001	000
S99	**(Not display)**	000 / 001	000

OTHERS

Item No.	Item name	Variable range	Initial setting value 48"	56"	65"
F01	E 1	000~255	003	004	004
F02	E 2	000~255	002	002	002
F03	**(Not display)**	000~255	127	127	127
F04	CATVMAX	000~255	001	001	001
F05	**(Not display)**	000 / 001	050	050	114
F06	**(Not display)**	000~255	000	000	000
F07	**(Not display)**	000~255	007	007	015
F08	**(Not display)**	000~255	000	000	000

Item No.	Item name	Variable range	ASPECT CINEMA	OTHERS
F09	AUTOSCR1	000~015	000	000
F10	AUTOSCR2	000~015	000	000
F11	AUTOSCR3	000~015	000	000
F12	AUTOSCR4	000~015	000	000
F13	AUTOSCR5	000~015	000	000
F14	AUTOSCR6	000~015	000	000
F15	AUTOSCR7	000~015	000	000

Item No.	Item name	Variable range	Initial setting value
F16	**(Not display)**	000~127	070
F17	**(Not display)**	000 / 001	000
F18	FIX DATA	000 / 001	000
F19	**(Not display)**	000 / 001	000
F20	**(Not display)**	000~255	005
F21	**(Not display)**	000~255	002
F22	**(Not display)**	000 / 001	000
F23	**(Not display)**	000~255	000
F24	**(Not display)**	000~255	141
F25	**(Not display)**	000~255	006
F26	**(Not display)**	000~255	040
F27	**(Not display)**	000~255	040
F28	**(Not display)**	000 /001	000

Item No.	Item name	Variable range	Initial setting value
F29	**(Not display)**	000 / 001	000
F30	**(Not display)**	000 / 001	000
F31	**(Not display)**	000 / 001	000
F32	ATT V	000 / 001	000
F33	ATT U	000 / 001	000
F34	ATT C	000 / 001	000
F35	**(Not display)**	000 / 001	000
F36	**(Not display)**	000 / 001	000
F37	**(Not display)**	000 / 001	000
F38	DC1	000 / 001	000
F39	DC4	000 / 001	000
F40	DC5	000 / 001	000

Item No.	Item name	Variable range	NTSC	480i	480p	720p	1080i
F41	SS LV	000~003	000	002	002	002	002
F42	SS CP	000 / 001	000	000	000	000	000
F43	SS HDP	000~063	039	039	037	025	024

Item No.	Item name	Variable range	Initial setting value
F44	**(Not display)**	000 / 001	000
F45	**(Not display)**	000 / 001	000
F46	OUT LV.	000 / 001	000
F47	LMT BTM	000 / 001	000
F48	LMT TOP	000 / 001	000
F49	**(Not display)**	000 / 001	001
F50	**(Not display)**	000 / 001	001
F51	**(Not display)**	000~015	011
F52	**(Not display)**	000~063	055
F53	**(Not display)**	-128~+127	000
F54	**(Not display)**	000~255	015
F55	**(Not display)**	000 / 001	000
F56	**(Not display)**	000~255	188
F57	**(Not display)**	000~255	105

Item No.	Item name	Variable range	Initial setting value
F58	**(Not display)**	000~255	077
F59	**(Not display)**	000 / 001	001
F60	**(Not display)**	000 / 001	000
F61	**(Not display)**	000 / 001	001
F62	**(Not display)**	000 / 001	000
F63	**(Not display)**	-128~+127	000
F64	**(Not display)**	-128~+127	+010
F65	**(Not display)**	-128~+127	000
F66	**(Not display)**	000~007	006
F67	**(Not display)**	000~003	000
F68	**(Not display)**	000~255	126
F69	**(Not display)**	000 / 001	001
F70	**(Not display)**	000 / 001	000

4.6.2 [2.YC SEP] (All fixed)

NOTE :

Initial setting value is reference value at following condition.

INPUT SIGNAL : NTSC
ASPECT : FULL
MULTI : SINGLE
VIDEO STATUS : STANDARD
COLOR TEMPERATURE : LOW

Item No.	Item name	Variable range	Initial setting value
YCM001	**(Not display)**	000 / 001	000
YCM002	**(Not display)**	000 / 001	000
YCM003	**(Not display)**	000 / 001	000
YCM004	**(Not display)**	000~003	001
YCM005	**(Not display)**	000~255	239
YCM006	**(Not display)**	000~003	001
YCM007	**(Not display)**	000~255	239
YCM008	**(Not display)**	000 / 001	000
YCM009	**(Not display)**	000~003	000
YCM010	**(Not display)**	000 / 001	000
YCM011	**(Not display)**	000 / 001	000
YCM012	**(Not display)**	000 / 001	000
YCM013	**(Not display)**	000 / 001	000
YCM014	**(Not display)**	000~003	000
YCM015	**(Not display)**	000 / 001	000
YCM016	**(Not display)**	000~003	001
YCM017	**(Not display)**	000 / 001	001
YCM018	**(Not display)**	000~003	000
YCM019	**(Not display)**	000 / 001	000
YCM020	**(Not display)**	000 / 001	000
YCM021	**(Not display)**	000~003	002
YCM022	**(Not display)**	000~007	004
YCM023	**(Not display)**	000 / 001	001
YCM024	**(Not display)**	000 / 001	000
YCM025	**(Not display)**	000~007	005
YCM026	**(Not display)**	000~015	003
YCM027	**(Not display)**	000~003	000
YCM028	**(Not display)**	000~007	003
YCM029	**(Not display)**	000~007	002
YCM030	**(Not display)**	000~003	003
YCM031	**(Not display)**	000 / 001	000
YCM032	**(Not display)**	000~003	003
YCM033	**(Not display)**	000 / 001	001
YCM034	**(Not display)**	000 / 001	000
YCM035	**(Not display)**	000~255	096
YCM036	**(Not display)**	000 / 001	001
YCM037	**(Not display)**	000~003	001
YCM038	**(Not display)**	000~127	062
YCM039	**(Not display)**	000~127	073

Item No.	Item name	Variable range	Initial setting value
YCM040	**(Not display)**	000~003	002
YCM041	**(Not display)**	000~063	016
YCM042	**(Not display)**	000 / 001	000
YCM043	**(Not display)**	000 / 001	000
YCM044	**(Not display)**	000~255	241
YCM045	**(Not display)**	000 / 001	000
YCM046	**(Not display)**	000~255	165
YCM047	**(Not display)**	000 / 001	001
YCM048	**(Not display)**	000 / 001	001
YCM049	**(Not display)**	000 / 001	001
YCM050	**(Not display)**	000 / 001	001
YCM051	**(Not display)**	000 / 001	001
YCM052	**(Not display)**	000 / 001	000
YCM053	**(Not display)**	000 / 001	001
YCM054	**(Not display)**	000~003	003
YCM055	**(Not display)**	000~003	003
YCM056	**(Not display)**	000~003	000
YCM057	**(Not display)**	000 / 001	000
YCM058	**(Not display)**	000 / 001	001
YCM059	**(Not display)**	000 / 001	001
YCM060	**(Not display)**	000 / 001	000
YCM061	**(Not display)**	000 / 001	001
YCM062	**(Not display)**	000~015	001
YCM063	**(Not display)**	000~015	004
YCM064	**(Not display)**	000 / 001	000
YCM065	**(Not display)**	000~063	060
YCM066	**(Not display)**	000~063	040
YCM067	**(Not display)**	000~063	025
YCM068	**(Not display)**	000~063	012
YCM069	**(Not display)**	000~063	036
YCM070	**(Not display)**	000~063	031
YCM071	**(Not display)**	000~255	031
YCM072	**(Not display)**	000 / 001	001
YCM073	**(Not display)**	000 / 001	001
YCM074	**(Not display)**	000~063	024
YCM075	**(Not display)**	000 / 001	000
YCM076	**(Not display)**	000 / 001	001
YCM077	**(Not display)**	000~063	010
YCM078	**(Not display)**	000~063	001
YCM079	**(Not display)**	000~255	000
YCM080	**(Not display)**	000~255	000
YCM081	**(Not display)**	000~255	000
YCM082	**(Not display)**	000~255	000
YCM083	**(Not display)**	000 / 001	001
YCM084	**(Not display)**	000~063	012

Item No.	Item name	Variable range	Initial setting value
YCM085	**(Not display)**	000 / 001	000
YCM086	**(Not display)**	000 / 001	000
YCM087	**(Not display)**	000~063	028
YCM088	**(Not display)**	000 / 001	001
YCM089	**(Not display)**	000~031	000
YCM090	**(Not display)**	000~003	000
YCM091	**(Not display)**	000~015	000
YCM092	**(Not display)**	000~015	000
YCM093	**(Not display)**	000~015	002
YCM094	**(Not display)**	000~063	000
YCM095	**(Not display)**	000~255	040
YCM096	**(Not display)**	000 / 001	001
YCM097	**(Not display)**	000~063	063
YCM098	**(Not display)**	000~015	008
YCM099	**(Not display)**	000~015	005
YCM100	**(Not display)**	000~015	008
YCM101	**(Not display)**	000~015	005
YCM102	**(Not display)**	000~015	000
YCM103	**(Not display)**	000~015	002
YCM104	**(Not display)**	000~015	008
YCM105	**(Not display)**	000~015	006
YCM106	**(Not display)**	000~255	010
YCM107	**(Not display)**	000~255	032
YCM108	**(Not display)**	000~255	031
YCM109	**(Not display)**	000~255	064
YCM110	**(Not display)**	000 / 001	000
YCM111	**(Not display)**	000 / 001	001
YCM112	**(Not display)**	000 / 001	001
YCM113	**(Not display)**	000 / 001	001
YCM114	**(Not display)**	000 / 001	000
YCM115	**(Not display)**	000 / 001	001
YCM116	**(Not display)**	000 / 001	000
YCM117	**(Not display)**	000 / 001	000
YCM118	**(Not display)**	000 / 001	001
YCM119	**(Not display)**	000 / 001	000
YCM120	**(Not display)**	000 / 001	000
YCM121	**(Not display)**	000~003	003
YCM122	**(Not display)**	000 / 001	000
YCM123	**(Not display)**	000~255	026
YCM124	**(Not display)**	000 / 001	000
YCM125	**(Not display)**	000~255	025
YCM126	**(Not display)**	000 / 001	000
YCM127	**(Not display)**	000 / 001	001
YCM128	**(Not display)**	000 / 001	001
YCM129	**(Not display)**	000 / 001	001
YCM130	**(Not display)**	000~003	001
YCM131	**(Not display)**	000~255	050
YCM132	**(Not display)**	000~255	154
YCM133	**(Not display)**	000~255	055
YCM134	**(Not display)**	000~007	001
YCM135	**(Not display)**	000~255	136
YCM136	**(Not display)**	000 / 001	000
YCM137	**(Not display)**	000 / 001	001
YCM138	**(Not display)**	000~007	003
YCM139	**(Not display)**	000~255	089
YCM140	**(Not display)**	000~007	000
YCM141	**(Not display)**	000~255	252
YCM142	**(Not display)**	000 / 001	001
YCM143	**(Not display)**	000~007	005
YCM144	**(Not display)**	000~255	128
YCM145	**(Not display)**	000 / 001	000
YCM146	**(Not display)**	000 / 001	001
YCM147	**(Not display)**	000 / 001	001
YCM148	**(Not display)**	000 / 001	001
YCM149	**(Not display)**	000 / 001	000
YCM150	**(Not display)**	000 / 001	000
YCM151	**(Not display)**	000~255	136
YCM152	**(Not display)**	000 / 001	001
YCM153	**(Not display)**	000 / 001	001
YCM154	**(Not display)**	000 / 001	001
YCM155	**(Not display)**	000~003	000
YCM156	**(Not display)**	000~015	015
YCM157	**(Not display)**	000~015	004
YCM158	**(Not display)**	000 / 001	001
YCM159	**(Not display)**	000~127	004
YCM160	**(Not display)**	000 / 001	000
YCM161	**(Not display)**	000~031	000
YCM162	**(Not display)**	000 / 001	000
YCM163	**(Not display)**	000~015	003
YCM164	**(Not display)**	000~007	002
YCM165	**(Not display)**	000~031	016
YCM166	**(Not display)**	000~255	235
YCM167	**(Not display)**	000~003	000
YCM168	**(Not display)**	000~063	000
YCM169	**(Not display)**	000~015	003
YCM170	**(Not display)**	000~015	003
YCM171	**(Not display)**	000~007	000
YCM172	**(Not display)**	000~255	096
YCM173	**(Not display)**	000~007	003
YCM174	**(Not display)**	000~255	056

Item No.	Item name	Variable range	Initial setting value
YCM175	**(Not display)**	000 / 001	000
YCM176	**(Not display)**	000 / 001	000
YCM177	**(Not display)**	000~255	022
YCM178	**(Not display)**	000 / 001	001
YCM179	**(Not display)**	000 / 001	000
YCM180	**(Not display)**	000~007	004
YCM181	**(Not display)**	000~003	001
YCM182	**(Not display)**	000~003	001
YCM183	**(Not display)**	000~003	001
YCM184	**(Not display)**	000~003	001
YCM185	**(Not display)**	000~255	000

Item No.	Item name	Variable range	Initial setting value
YCS001	**(Not display)**	000 / 001	000
YCS002	**(Not display)**	000 / 001	000
YCS003	**(Not display)**	000 / 001	000
YCS004	**(Not display)**	000~003	001
YCS005	**(Not display)**	000~255	239
YCS006	**(Not display)**	000~003	001
YCS007	**(Not display)**	000~255	239
YCS008	**(Not display)**	000 / 001	000
YCS009	**(Not display)**	000~003	000
YCS010	**(Not display)**	000 / 001	000
YCS011	**(Not display)**	000 / 001	000
YCS012	**(Not display)**	000 / 001	000
YCS013	**(Not display)**	000 / 001	000
YCS014	**(Not display)**	000~003	000
YCS015	**(Not display)**	000 / 001	000
YCS016	**(Not display)**	000~003	001
YCS017	**(Not display)**	000 / 001	001
YCS018	**(Not display)**	000~003	000
YCS019	**(Not display)**	000~001	000
YCS020	**(Not display)**	000~001	000
YCS021	**(Not display)**	000~003	002
YCS022	**(Not display)**	000~007	004
YCS023	**(Not display)**	000 / 001	001
YCS024	**(Not display)**	000 / 001	000
YCS025	**(Not display)**	000~015	005
YCS026	**(Not display)**	000~015	003
YCS027	**(Not display)**	000~003	000
YCS028	**(Not display)**	000~007	004
YCS029	**(Not display)**	000~007	006
YCS030	**(Not display)**	000~003	001
YCS031	**(Not display)**	000 / 001	000
YCS032	**(Not display)**	000~003	003

Item No.	Item name	Variable range	Initial setting value
YCS033	**(Not display)**	000 / 001	001
YCS034	**(Not display)**	000 / 001	000
YCS035	**(Not display)**	000~255	096
YCS036	**(Not display)**	000 / 001	001
YCS037	**(Not display)**	000~003	001
YCS038	**(Not display)**	000~127	062
YCS039	**(Not display)**	000~127	073
YCS040	**(Not display)**	000~003	002
YCS041	**(Not display)**	000~063	016
YCS042	**(Not display)**	000 / 001	000
YCS043	**(Not display)**	000 / 001	000
YCS044	**(Not display)**	000~255	164
YCS045	**(Not display)**	000 / 001	000
YCS046	**(Not display)**	000~255	110
YCS047	**(Not display)**	000 / 001	001
YCS048	**(Not display)**	000~031	000
YCS049	**(Not display)**	000~003	000
YCS050	**(Not display)**	000~015	000
YCS051	**(Not display)**	000~015	008
YCS052	**(Not display)**	000~015	001
YCS053	**(Not display)**	000~063	030
YCS054	**(Not display)**	000~255	030
YCS055	**(Not display)**	000 / 001	000
YCS056	**(Not display)**	000~063	016
YCS057	**(Not display)**	000~015	008
YCS058	**(Not display)**	000~015	005
YCS059	**(Not display)**	000~015	008
YCS060	**(Not display)**	000~015	005
YCS061	**(Not display)**	000~015	000
YCS062	**(Not display)**	000~015	002
YCS063	**(Not display)**	000~015	008
YCS064	**(Not display)**	000~015	006
YCS065	**(Not display)**	000~255	010
YCS066	**(Not display)**	000~255	032
YCS067	**(Not display)**	000~255	031
YCS068	**(Not display)**	000~255	064
YCS069	**(Not display)**	000 / 001	000
YCS070	**(Not display)**	000 / 001	001
YCS071	**(Not display)**	000 / 001	001
YCS072	**(Not display)**	000 / 001	001
YCS073	**(Not display)**	000 / 001	000
YCS074	**(Not display)**	000 / 001	001
YCS075	**(Not display)**	000 / 001	000
YCS076	**(Not display)**	000 / 001	000
YCS077	**(Not display)**	000 / 001	001

Item No.	Item name	Variable range	Initial setting value
YCS078	**(Not display)**	000 / 001	000
YCS079	**(Not display)**	000 / 001	000
YCS080	**(Not display)**	000~003	003
YCS081	**(Not display)**	000 / 001	000
YCS082	**(Not display)**	000~255	000
YCS083	**(Not display)**	000~255	000
YCS084	**(Not display)**	000~007	000
YCS085	**(Not display)**	000~255	014
YCS086	**(Not display)**	000 / 001	000
YCS087	**(Not display)**	000 / 001	001
YCS088	**(Not display)**	000 / 001	000
YCS089	**(Not display)**	000 / 001	000
YCS090	**(Not display)**	000~255	136
YCS091	**(Not display)**	000 / 001	001
YCS092	**(Not display)**	000 / 001	001
YCS093	**(Not display)**	000 / 001	001
YCS094	**(Not display)**	000~003	000
YCS095	**(Not display)**	000~015	015
YCS096	**(Not display)**	000~015	004
YCS097	**(Not display)**	000 / 001	001
YCS098	**(Not display)**	000~127	007
YCS099	**(Not display)**	000~031	000
YCS100	**(Not display)**	000 / 001	000
YCS101	**(Not display)**	000~015	003
YCS102	**(Not display)**	000~007	002
YCS103	**(Not display)**	000~031	016
YCS104	**(Not display)**	000~255	235
YCS105	**(Not display)**	000~003	000
YCS106	**(Not display)**	000~063	000
YCS107	**(Not display)**	000~015	003
YCS108	**(Not display)**	000~015	003
YCS109	**(Not display)**	000 / 001	000
YCS110	**(Not display)**	000~003	001
YCS111	**(Not display)**	000~003	001
YCS112	**(Not display)**	000~003	001
YCS113	**(Not display)**	000~003	001
YCS114	**(Not display)**	000~255	000

4.6.3 [3.WHITE BALANCE]

NOTE :

Initial setting value is reference value at following condition.

INPUT SIGNAL : NTSC
ASPECT : FULL
MULTI : SINGLE
VIDEO STATUS : STANDARD
COLOR TEMPERATURE : LOW

Item No.	Item name	Variable range	Initial setting value
BR	**(Not display)**	000~255	118
DRV R	**(Not display)**	000~255	089
DRV B	**(Not display)**	000~255	108
CUT R	**(Not display)**	000~255	247
CUT G	**(Not display)**	000~255	244
CUT B	**(Not display)**	000~255	226

4.6.4 [6.CONVER A]

Item No.	Item name	Variable range	Initial setting value
CPA01	FINE OFF	0 / 1	0
CPA02	TPOH	0~4095	114
CPA03	TPOV LINE	0~255	017
CPA04	TPOV OFST	0~7	0
CPA05	FINEP	0~4095	1245
CPA06	STARTLIN A	0~127	56
CPA07	STARTLIN B	-7~7	-1
CPA08	CAU H2	0~15	0
CPA09	COARS OFST	-511~511	-50
CPA10	V1OFSTA	-511~511	7
CPA11	V1OFSTB	-31~31	0

Item No.	Item name	Variable range	Initial setting value		
			GREEN	RED	BLUE
CCA01	C H CENT	-512~511	0	-240	395
CCA02	C H SIZE	-512~511	-27	-54	16
CCA03	C H LIN	-512~511	-96	240	-348
CCA04	C H SKEW	-512~511	0	0	-10
CCA05	C EW PIN	-512~511	-91	-26	-17
CCA06	C H BOW	-512~511	0	-30	21
CCA07	C V CENT	-512~511	-19	8	12
CCA08	C V SKEW	-512~511	0	0	4
CCA09	C V SIZE	-512~511	-108	-77	-105
CCA10	C V LIN	-512~511	15	12	8
CCA11	C V KEY	-512~511	0	114	-77
CCA12	C TB PIN	-512~511	230	153	230

Item No.	Item name	Variable range	Initial setting value
CDA01	DF DC	-512~511	0
CDA02	DF H1	-512~511	0
CDA03	DF H2	-512~511	0
CDA04	DF V1	-512~511	0
CDA05	DF V2	-512~511	0
CDA06	DF V1H1	-512~511	0
CDA07	DF V2H2	-512~511	0

Item No.	Item name	Variable range	Initial setting value
CBA01	ADD RATIO	0~3	0
CBA02	INTERLACE	0 / 1	0
CBA03	CKOUT FRE	0~3	0
CBA04	DF MUTE	0 / 1	0
CBA05	ODD LEVEL	0 / 1	1
CBA06	HRET SAMPL	0~3	2
CBA07	HRETS	0 / 1	0
CBA08	HRET TIME	-512~511	0
CBA09	H1 CENT RE	0 / 1	1
CBA10	DF CENT RE	0 / 1	0
CBA11	VIPOL	0~127	68
CBA12	V1CENTUP	0~4095	466
CBA13	RVCLMP STR	0~15	0
CBA14	RVCLMPTER	0~15	0
CBA15	RVCLMP CEN	0 / 1	0
CBA16	GVCLMP STR	0~15	0
CBA17	GVCLMPTER	0~15	0
CBA18	GVCLMP CEN	0 / 1	0
CBA19	BVCLMP STR	0~15	0
CBA20	BVCLMPTER	0~15	0
CBA21	BVCLMP CEN	0 / 1	0
CBA22	RHCLMP STR	0~15	0
CBA23	RHCLMPTER	0~15	0
CBA24	RHCLMP CEN	0 / 1	0
CBA25	GHCLMP STR	0~15	0
CBA26	GHCLMPTER	0~15	0
CBA27	GHCLMP CEN	0 / 1	0
CBA28	BHCLMP STR	0~15	0
CBA29	BHCLMPTER	0~15	0
CBA30	BHCLMP CEN	0 / 1	0
CBA31	PATTERN H	0~3	1
CBA32	PATTERN W	0~3	1
CBA33	HATCH PAT	0~15	1
CBA34	CURS SPACE	0~7	1
CBA35	HATCH COL	0~7	2
CBA36	BORDER COL	0~7	0

Item No.	Item name	Variable range	Initial setting value
CBA37	CURSOL COL	0~7	0
CBA38	CROSS COL	0~7	0
CBA39	SQUARE COL	0~7	0
CBA40	XCPOS VPOS	0~31	16
CBA41	XCPOS HPOS	0~31	16
CBA42	CURSOL PAT	0~3	0
CBA43	MTPH1	-32768~32767	0
CBA44	MTPH2	-32768~32767	0
CBA45	MTPV1	-32768~32767	0
CBA46	MTPV2	-32768~32767	0
CBA47	YSP	-7~7	0
CBA48	BL1POSV	0~2047	0
CBA49	BL1POSH	0~4095	0
CBA50	BL2POSV	0~2047	0
CBA51	BL2POSH	0~4095	0
CBA52	XPOSV	0~2047	580
CBA53	XPOSH	0~4095	1012
CBA54	XLLENV	0~2047	276
CBA55	XLLENH	0~4095	450
CBA56	SQ1POSV	0~2047	30
CBA57	SQ1POSH	0~4095	1024
CBA58	SQ1VSIZE	0~255	128
CBA59	SQ1HSIZE	0~255	100
CBA60	SQ2POSV	0~2047	594
CBA61	SQ2POSH	0~4095	282
CBA62	SQ2VSIZE	0~255	100
CBA63	SQ2HSIZE	0~255	110
CBA64	SQ3POSV	0~2047	1008
CBA65	SQ3POSH	0~4095	1024
CBA66	SQ3VSIZE	0~255	160
CBA67	SQ3HSIZE	0~255	100
CBA68	SQ4POSV	0~2047	594
CBA69	SQ4POSH	0~4095	1612
CBA70	SQ4VSIZE	0~255	100
CBA71	SQ4HSIZE	0~255	116
CBA72	SQ5POSV	0~2047	547
CBA73	SQ5POSH	0~4095	1013
CBA74	SQ5VSIZE	0~255	70
CBA75	SQ5HSIZE	0~255	4
CBA76	SQ6POSV	0~2047	580
CBA77	SQ6POSH	0~4095	984
CBA78	SQ6VSIZE	0~255	4
CBA79	SQ6HSIZE	0~255	64
CBA80	SQ7POSV	0~2047	456
CBA81	SQ7POSH	0~4095	888

Item No.	Item name	Variable range	Initial setting value
CBA82	SQ7VSIZE	0~255	255
CBA83	SQ7HSIZE	0~255	255
CBA84	SQ8POSV	0~2047	0
CBA85	SQ8POSH	0~4095	0
CBA86	SQ8VSIZE	0~255	0
CBA87	SQ8HSIZE	0~255	0
CBA88	ODEVP	0~3072	1584
CBA89	DFP	0~4095	0
CBA90	PWMH1P	0~4095	0
CBA91	PWMH1W	0~4095	0
CBA92	PWMV1P	0~1023	0
CBA93	PWMV1W	0~1023	1
CBA94	PWMH2W	0~4095	0

4.6.5 [8.IP] (All fixed)

NOTE :

Initial setting value is reference value at following condition.

INPUT SIGNAL : NTSC
ASPECT : FULL
MULTI : SINGLE
VIDEO STATUS : STANDARD
COLOR TEMPERATURE : LOW

Item No.	Item name	Variable range	Initial setting value
IPA001	**(Not display)**	000~0FF	0C7
IPA002	**(Not display)**	000~0FF	000
IPA003	**(Not display)**	000~0FF	000
IPA004	**(Not display)**	000~0FF	08A
IPA005	**(Not display)**	000~01F	001
IPA006	**(Not display)**	000~0FF	037
IPA007	**(Not display)**	000~00F	000
IPA008	**(Not display)**	000~0FF	000
IPA009	**(Not display)**	000~00F	000
IPA010	**(Not display)**	000~0FF	080
IPA011	**(Not display)**	000~00F	002
IPA012	**(Not display)**	000~0FF	02B
IPA013	**(Not display)**	000~00F	002
IPA014	**(Not display)**	000~0FF	000
IPA015	**(Not display)**	000~00F	002
IPA016	**(Not display)**	000~0FF	080
IPA017	**(Not display)**	000~00F	001
IPA018	**(Not display)**	000~0FF	000
IPA019	**(Not display)**	000~00F	001
IPA020	**(Not display)**	000~0FF	080
IPA021	**(Not display)**	000~00F	016
IPA022	**(Not display)**	000~0FF	023
IPA023	**(Not display)**	000~00F	000
IPA024	**(Not display)**	000 / 001	001
IPA025	**(Not display)**	000 / 001	001
IPA026	**(Not display)**	000~03F	01F
IPA027	**(Not display)**	000~003	000
IPA028	**(Not display)**	000~03F	008
IPA029	**(Not display)**	000~03F	02B
IPA030	**(Not display)**	000~00F	005
IPA031	**(Not display)**	000~007	001
IPA032	**(Not display)**	000~03F	010
IPA033	**(Not display)**	000 / 001	001
IPA034	**(Not display)**	000~03F	039
IPA035	**(Not display)**	000 / 001	001
IPA036	**(Not display)**	000~03F	00E
IPA037	**(Not display)**	000~03F	02E
IPA038	**(Not display)**	000~03F	01E
IPA039	**(Not display)**	000~003	002
IPA040	**(Not display)**	000~003	003
IPA041	**(Not display)**	000~00F	008
IPA042	**(Not display)**	000~03F	020

4.6.6 [9.DSD] (All fixed)

NOTE :

Initial setting value is reference value at following condition.

INPUT SIGNAL : NTSC
ASPECT : FULL
MULTI : SINGLE
VIDEO STATUS : STANDARD
COLOR TEMPERATURE : LOW

Item No.	Item name	Variable range	Initial setting value
DSA001	**(Not display)**	000~03F	01F
DSA002	**(Not display)**	000~03F	012
DSA003	**(Not display)**	000~03F	02E
DSA004	**(Not display)**	000~003	000
DSA005	**(Not display)**	000 / 001	000
DSA006	**(Not display)**	000~003	001
DSA007	**(Not display)**	000~03F	010
DSA008	**(Not display)**	000 / 001	001
DSA009	**(Not display)**	000~03F	010
DSA010	**(Not display)**	000 / 001	001
DSA011	**(Not display)**	000 / 001	001
DSA012	**(Not display)**	000~03F	006
DSA013	**(Not display)**	000~03F	010
DSA014	**(Not display)**	000~03F	020
DSA015	**(Not display)**	000~003	001
DSA016	**(Not display)**	000 / 001	001
DSA017	**(Not display)**	000~003	000

Item No.	Item name	Variable range	Initial setting value
DSA018	**(Not display)**	000~03F	000
DSA019	**(Not display)**	000 / 001	001
DSA020	**(Not display)**	000~03F	01D
DSA021	**(Not display)**	000 / 001	001
DSA022	**(Not display)**	000~03F	00C
DSA023	**(Not display)**	000 / 001	001
DSA024	**(Not display)**	000~03F	006
DSA025	**(Not display)**	000/001	001
DSA026	**(Not display)**	000~03F	02F
DSA027	**(Not display)**	000 / 001	001
DSA028	**(Not display)**	000~03F	007
DSA029	**(Not display)**	000 / 001	001
DSA030	**(Not display)**	000 / 001	001
DSA031	**(Not display)**	000~03F	023
DSA032	**(Not display)**	000 / 001	000
DSA033	**(Not display)**	000~003	000
DSA034	**(Not display)**	000~03F	008
DSA035	**(Not display)**	000 / 001	001
DSA036	**(Not display)**	000 / 001	001
DSA037	**(Not display)**	000~03F	023
DSA038	**(Not display)**	000 / 001	000
DSA039	**(Not display)**	000~003	000
DSA040	**(Not display)**	000~03F	008
DSA041	**(Not display)**	000 / 001	001
DSA042	**(Not display)**	000 / 001	001
DSA043	**(Not display)**	000 / 001	001
DSA044	**(Not display)**	000~03F	011
DSA045	**(Not display)**	000 / 001	000
DSA046	**(Not display)**	000~003	002
DSA047	**(Not display)**	000~03F	005
DSA048	**(Not display)**	000 / 001	001
DSA049	**(Not display)**	000~03F	000
DSA050	**(Not display)**	000 / 001	001
DSA051	**(Not display)**	000~03F	00B
DSA052	**(Not display)**	000 / 001	001
DSA053	**(Not display)**	000 / 001	001

Item No.	Item name	Variable range	Initial setting value
DSB001	**(Not display)**	**(Not display)**	01F
DSB002	**(Not display)**	**(Not display)**	012
DSB003	**(Not display)**	**(Not display)**	02E
DSB004	**(Not display)**	**(Not display)**	000
DSB005	**(Not display)**	**(Not display)**	000
DSB006	**(Not display)**	**(Not display)**	001
DSB007	**(Not display)**	**(Not display)**	011
DSB008	**(Not display)**	**(Not display)**	001
DSB009	**(Not display)**	**(Not display)**	010
DSB010	**(Not display)**	**(Not display)**	001
DSB011	**(Not display)**	**(Not display)**	001
DSB012	**(Not display)**	**(Not display)**	008
DSB013	**(Not display)**	**(Not display)**	012
DSB014	**(Not display)**	**(Not display)**	025
DSB015	**(Not display)**	**(Not display)**	001
DSB016	**(Not display)**	**(Not display)**	001
DSB017	**(Not display)**	**(Not display)**	001
DSB018	**(Not display)**	**(Not display)**	000
DSB019	**(Not display)**	**(Not display)**	001
DSB020	**(Not display)**	**(Not display)**	010
DSB021	**(Not display)**	**(Not display)**	001
DSB022	**(Not display)**	**(Not display)**	00C
DSB023	**(Not display)**	**(Not display)**	001
DSB024	**(Not display)**	**(Not display)**	005
DSB025	**(Not display)**	**(Not display)**	001
DSB026	**(Not display)**	**(Not display)**	02F
DSB027	**(Not display)**	**(Not display)**	001
DSB028	**(Not display)**	**(Not display)**	007
DSB029	**(Not display)**	**(Not display)**	001
DSB030	**(Not display)**	**(Not display)**	001
DSB031	**(Not display)**	**(Not display)**	023
DSB032	**(Not display)**	**(Not display)**	000
DSB033	**(Not display)**	**(Not display)**	000
DSB034	**(Not display)**	**(Not display)**	008
DSB035	**(Not display)**	**(Not display)**	001
DSB036	**(Not display)**	**(Not display)**	001
DSB037	**(Not display)**	**(Not display)**	023
DSB038	**(Not display)**	**(Not display)**	000
DSB039	**(Not display)**	**(Not display)**	000
DSB040	**(Not display)**	**(Not display)**	008
DSB041	**(Not display)**	**(Not display)**	001
DSB042	**(Not display)**	**(Not display)**	001
DSB043	**(Not display)**	**(Not display)**	001
DSB044	**(Not display)**	**(Not display)**	00E
DSB045	**(Not display)**	**(Not display)**	000

Item No.	Item name	Variable range	Initial setting value
DSB046	**(Not display)**	**(Not display)**	002
DSB047	**(Not display)**	**(Not display)**	005
DSB048	**(Not display)**	**(Not display)**	001
DSB049	**(Not display)**	**(Not display)**	000
DSB050	**(Not display)**	**(Not display)**	001
DSB051	**(Not display)**	**(Not display)**	010
DSB052	**(Not display)**	**(Not display)**	001
DSB053	**(Not display)**	**(Not display)**	001

Item No.	Item name	Variable range	Initial setting value
DSC001	**(Not display)**	000~00F	008
DSC002	**(Not display)**	000~0FF	098
DSC003	**(Not display)**	000~03F	01F
DSC004	**(Not display)**	000~003	000
DSC005	**(Not display)**	000~0FF	000
DSC006	**(Not display)**	000 / 001	000
DSC007	**(Not display)**	000 / 001	000
DSC008	**(Not display)**	000 / 001	000
DSC009	**(Not display)**	000~00F	000
DSC010	**(Not display)**	000~0FF	000
DSC011	**(Not display)**	000~00F	00F
DSC012	**(Not display)**	000~0FF	0FF
DSC013	**(Not display)**	000~00F	001
DSC014	**(Not display)**	000~0FF	0E8
DSC015	**(Not display)**	000~00F	005
DSC016	**(Not display)**	000~0FF	018
DSC017	**(Not display)**	000~00F	000
DSC018	**(Not display)**	000~0FF	000
DSC019	**(Not display)**	000~00F	000
DSC020	**(Not display)**	000~0FF	000
DSC021	**(Not display)**	000~00F	000
DSC022	**(Not display)**	000~0FF	000
DSC023	**(Not display)**	000~00F	000
DSC024	**(Not display)**	000~0FF	000
DSC025	**(Not display)**	000~00F	000
DSC026	**(Not display)**	000~0FF	080
DSC027	**(Not display)**	000~00F	000
DSC028	**(Not display)**	000~0FF	040
DSC029	**(Not display)**	000~00F	005
DSC030	**(Not display)**	000~0FF	040
DSC031	**(Not display)**	000~00F	000
DSC032	**(Not display)**	000~0FF	0C0
DSC033	**(Not display)**	000~00F	000
DSC034	**(Not display)**	000~0FF	080
DSC035	**(Not display)**	000~00F	000
DSC036	**(Not display)**	000~0FF	040
DSC037	**(Not display)**	000~00F	005
DSC038	**(Not display)**	000~0FF	040
DSC039	**(Not display)**	000~00F	000
DSC040	**(Not display)**	000~0FF	0C0
DSC041	**(Not display)**	000~00F	004
DSC042	**(Not display)**	000~0FF	075
DSC043	**(Not display)**	000 / 001	000
DSC044	**(Not display)**	000 / 001	000

Item No.	Item name	Variable range	Initial setting value
DSD001	**(Not display)**	000~255	001
DSD002	**(Not display)**	000~255	002
DSD003	**(Not display)**	000~255	001
DSD004	**(Not display)**	000~255	002
DSD005	**(Not display)**	000~255	001
DSD006	**(Not display)**	000~255	002
DSD007	**(Not display)**	000~255	001
DSD008	**(Not display)**	000~255	002
DSD009	**(Not display)**	-128~127	+001
DSD010	**(Not display)**	-128~127	+001
DSD011	**(Not display)**	-128~127	+002
DSD012	**(Not display)**	-128~127	+002
DSD013	**(Not display)**	-128~127	-001
DSD014	**(Not display)**	-128~127	+001
DSD015	**(Not display)**	000~0FF	001
DSD016	**(Not display)**	000~0FF	001
DSD017	**(Not display)**	000~0FF	001

4.6.7 [0.HDMI] (All fixed)

NOTE :

Initial setting value is reference value at following condition.

INPUT SIGNAL : NTSC
ASPECT : FULL
MULTI : SINGLE
VIDEO STATUS : STANDARD
COLOR TEMPERATURE : LOW

Item No.	Item name	Variable range	Initial setting value
HDM001	**(Not display)**	000 / 001	000
HDM002	**(Not display)**	000 / 001	000
HDM003	**(Not display)**	000 / 001	000
HDM004	**(Not display)**	000 / 001	000
HDM005	**(Not display)**	000 / 001	001
HDM006	**(Not display)**	000~003	000
HDM007	**(Not display)**	000 / 001	000
HDM008	**(Not display)**	000 / 001	000

Item No.	Item name	Variable range	Initial setting value
HDM009	**(Not display)**	000 / 001	000
HDM010	**(Not display)**	000 / 001	000
HDM011	**(Not display)**	000 / 001	000
HDM012	**(Not display)**	000 / 001	000
HDM013	**(Not display)**	000 / 001	001
HDM014	**(Not display)**	000 / 001	000
HDM015	**(Not display)**	000 / 001	000
HDM016	**(Not display)**	000~255	000
HDM017	**(Not display)**	000~255	000
HDM018	**(Not display)**	000~255	000
HDM019	**(Not display)**	000 / 001	001
HDM020	**(Not display)**	000~255	000
HDM021	**(Not display)**	000~007	002
HDM022	**(Not display)**	000~063	006
HDM023	**(Not display)**	000~063	006
HDM024	**(Not display)**	000~063	006
HDM025	**(Not display)**	000 / 001	000
HDM026	**(Not display)**	000~003	000
HDM027	**(Not display)**	000~255	212
HDM028	**(Not display)**	000~003	000
HDM029	**(Not display)**	000~255	192
HDM030	**(Not display)**	000~003	000
HDM031	**(Not display)**	000~255	212
HDM032	**(Not display)**	000~003	000
HDM033	**(Not display)**	000~255	191
HDM034	**(Not display)**	000~003	001
HDM035	**(Not display)**	000~255	012
HDM036	**(Not display)**	000~255	026
HDM037	**(Not display)**	000~255	001
HDM038	**(Not display)**	000~255	012
HDM039	**(Not display)**	000 / 001	001
HDM040	**(Not display)**	000 / 001	001
HDM041	**(Not display)**	000 / 001	000
HDM042	**(Not display)**	000~255	001
HDM043	**(Not display)**	000~007	003
HDM044	**(Not display)**	000~003	000
HDM045	**(Not display)**	000~003	000
HDM046	**(Not display)**	000 / 001	001
HDM047	**(Not display)**	000~015	007
HDM048	**(Not display)**	000~255	000
HDM049	**(Not display)**	000~255	000
HDM050	**(Not display)**	000~015	000
HDM051	**(Not display)**	000 / 001	000
HDM052	**(Not display)**	000 / 001	000
HDM053	**(Not display)**	000 / 001	000

Item No.	Item name	Variable range	Initial setting value
HDM054	**(Not display)**	000 / 001	000
HDM055	**(Not display)**	000 / 001	000
HDM056	**(Not display)**	000 / 001	000
HDM057	**(Not display)**	000 / 001	001
HDM058	**(Not display)**	000 / 001	000
HDM059	**(Not display)**	000 / 001	001
HDM060	**(Not display)**	000 / 001	000
HDM061	**(Not display)**	000 / 001	001
HDM062	**(Not display)**	000 / 001	001
HDM063	**(Not display)**	000 / 001	000
HDM064	**(Not display)**	000 / 001	000
HDM065	**(Not display)**	000 / 001	001
HDM066	**(Not display)**	000 / 001	000
HDM067	**(Not display)**	000 / 001	001
HDM068	**(Not display)**	000~031	004
HDM069	**(Not display)**	000 / 001	000
HDM070	**(Not display)**	000 / 001	001
HDM071	**(Not display)**	000 / 001	000
HDM072	**(Not display)**	000 / 001	000
HDM073	**(Not display)**	000 / 001	000
HDM074	**(Not display)**	000~031	008
HDM075	**(Not display)**	000 / 001	001
HDM076	**(Not display)**	000 / 001	001
HDM077	**(Not display)**	000 / 001	001
HDM078	**(Not display)**	000 / 001	001
HDM079	**(Not display)**	000 / 001	001
HDM080	**(Not display)**	000 / 001	001

Item No.	Item name	Variable range	Initial setting value
RHD001	**(Not display)**	**(Not display)**	001
RHD002	**(Not display)**	**(Not display)**	000
RHD003	**(Not display)**	**(Not display)**	042
RHD004	**(Not display)**	**(Not display)**	099
RHD005	**(Not display)**	**(Not display)**	000
RHD006	**(Not display)**	**(Not display)**	000
RHD007	**(Not display)**	**(Not display)**	0B7
RHD008	**(Not display)**	**(Not display)**	0FF
RHD009	**(Not display)**	**(Not display)**	0FF
RHD010	**(Not display)**	**(Not display)**	0FE
RHD011	**(Not display)**	**(Not display)**	0FF
RHD012	**(Not display)**	**(Not display)**	000
RHD013	**(Not display)**	**(Not display)**	0FB
RHD014	**(Not display)**	**(Not display)**	0FF
RHD015	**(Not display)**	**(Not display)**	0E3
RHD016	**(Not display)**	**(Not display)**	0FF

Item No.	Item name	Variable range	Initial setting value
RHD017	**(Not display)**	**(Not display)**	0FF
RHD018	**(Not display)**	**(Not display)**	0DE
RHD019	**(Not display)**	**(Not display)**	0FF
RHD020	**(Not display)**	**(Not display)**	0FB
RHD021	**(Not display)**	**(Not display)**	0FE
RHD022	**(Not display)**	**(Not display)**	0DF
RHD023	**(Not display)**	**(Not display)**	0FF
RHD024	**(Not display)**	**(Not display)**	0F7
RHD025	**(Not display)**	**(Not display)**	0B3
RHD026	**(Not display)**	**(Not display)**	0E7
RHD027	**(Not display)**	**(Not display)**	000
RHD028	**(Not display)**	**(Not display)**	000
RHD029	**(Not display)**	**(Not display)**	000
RHD030	**(Not display)**	**(Not display)**	000
RHD031	**(Not display)**	**(Not display)**	000
RHD032	**(Not display)**	**(Not display)**	000
RHD033	**(Not display)**	**(Not display)**	0E0
RHD034	**(Not display)**	**(Not display)**	001
RHD035	**(Not display)**	**(Not display)**	023
RHD036	**(Not display)**	**(Not display)**	00A
RHD037	**(Not display)**	**(Not display)**	000
RHD038	**(Not display)**	**(Not display)**	000
RHD039	**(Not display)**	**(Not display)**	000
RHD040	**(Not display)**	**(Not display)**	000
RHD041	**(Not display)**	**(Not display)**	000
RHD042	**(Not display)**	**(Not display)**	020
RHD043	**(Not display)**	**(Not display)**	000
RHD044	**(Not display)**	**(Not display)**	000
RHD045	**(Not display)**	**(Not display)**	000
RHD046	**(Not display)**	**(Not display)**	000
RHD047	**(Not display)**	**(Not display)**	00C
RHD048	**(Not display)**	**(Not display)**	000
RHD049	**(Not display)**	**(Not display)**	068
RHD050	**(Not display)**	**(Not display)**	03C
RHD051	**(Not display)**	**(Not display)**	001
RHD052	**(Not display)**	**(Not display)**	008
RHD053	**(Not display)**	**(Not display)**	004
RHD054	**(Not display)**	**(Not display)**	000
RHD055	**(Not display)**	**(Not display)**	000
RHD056	**(Not display)**	**(Not display)**	000
RHD057	**(Not display)**	**(Not display)**	000
RHD058	**(Not display)**	**(Not display)**	000
RHD059	**(Not display)**	**(Not display)**	00B
RHD060	**(Not display)**	**(Not display)**	002
RHD061	**(Not display)**	**(Not display)**	000

Item No.	Item name	Variable range	Initial setting value
RHD062	**(Not display)**	**(Not display)**	000
RHD063	**(Not display)**	**(Not display)**	000
RHD064	**(Not display)**	**(Not display)**	000
RHD065	**(Not display)**	**(Not display)**	000
RHD066	**(Not display)**	**(Not display)**	000
RHD067	**(Not display)**	**(Not display)**	000
RHD068	**(Not display)**	**(Not display)**	000
RHD069	**(Not display)**	**(Not display)**	000
RHD070	**(Not display)**	**(Not display)**	000
RHD071	**(Not display)**	**(Not display)**	000
RHD072	**(Not display)**	**(Not display)**	000
RHD073	**(Not display)**	**(Not display)**	000
RHD074	**(Not display)**	**(Not display)**	000
RHD075	**(Not display)**	**(Not display)**	000
RHD076	**(Not display)**	**(Not display)**	000
RHD077	**(Not display)**	**(Not display)**	000
RHD078	**(Not display)**	**(Not display)**	000
RHD079	**(Not display)**	**(Not display)**	000
RHD080	**(Not display)**	**(Not display)**	000
RHD081	**(Not display)**	**(Not display)**	000
RHD082	**(Not display)**	**(Not display)**	000
RHD083	**(Not display)**	**(Not display)**	000
RHD084	**(Not display)**	**(Not display)**	000
RHD085	**(Not display)**	**(Not display)**	000
RHD086	**(Not display)**	**(Not display)**	000
RHD087	**(Not display)**	**(Not display)**	000
RHD088	**(Not display)**	**(Not display)**	000
RHD089	**(Not display)**	**(Not display)**	000
RHD090	**(Not display)**	**(Not display)**	000
RHD091	**(Not display)**	**(Not display)**	000
RHD092	**(Not display)**	**(Not display)**	000
RHD093	**(Not display)**	**(Not display)**	000
RHD094	**(Not display)**	**(Not display)**	000
RHD095	**(Not display)**	**(Not display)**	000
RHD096	**(Not display)**	**(Not display)**	000
RHD097	**(Not display)**	**(Not display)**	000
RHD098	**(Not display)**	**(Not display)**	000
RHD099	**(Not display)**	**(Not display)**	000
RHD100	**(Not display)**	**(Not display)**	000
RHD101	**(Not display)**	**(Not display)**	000
RHD102	**(Not display)**	**(Not display)**	000
RHD103	**(Not display)**	**(Not display)**	000
RHD104	**(Not display)**	**(Not display)**	000
RHD105	**(Not display)**	**(Not display)**	000
RHD106	**(Not display)**	**(Not display)**	000

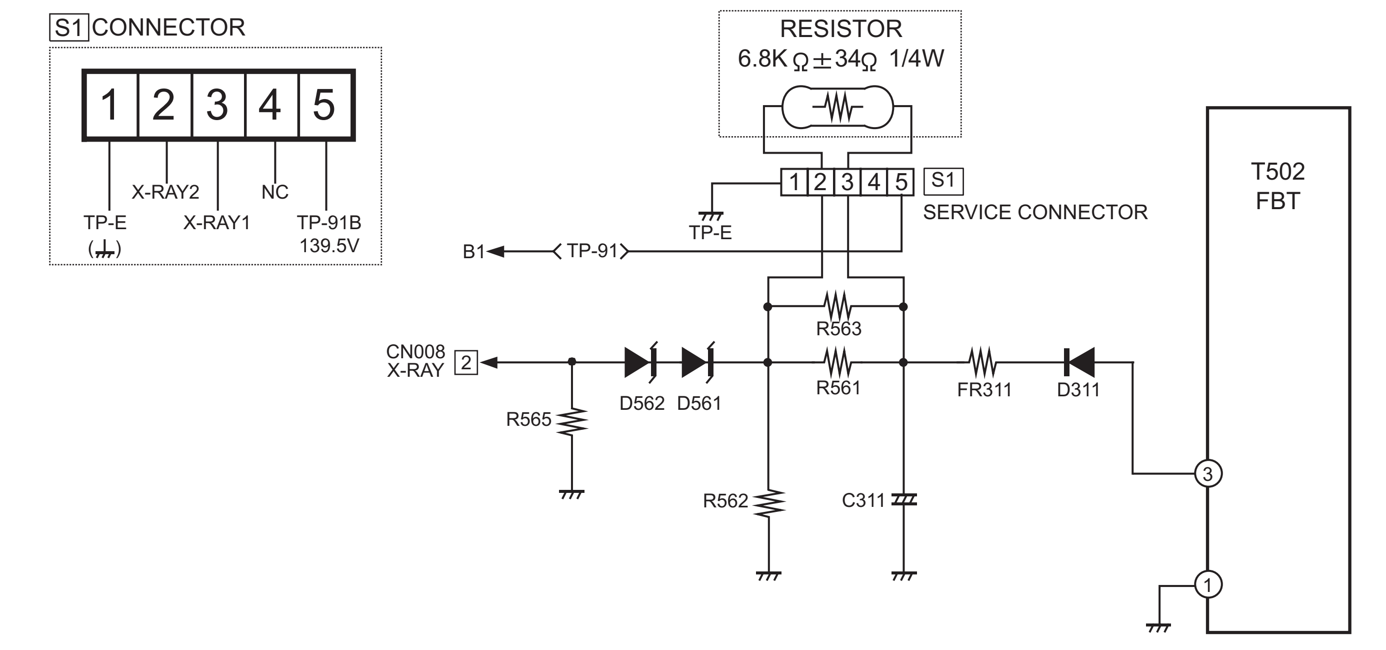
Item No.	Item name	Variable range	Initial setting value
RHD107	**(Not display)**	**(Not display)**	000
RHD108	**(Not display)**	**(Not display)**	000
RHD109	**(Not display)**	**(Not display)**	000
RHD110	**(Not display)**	**(Not display)**	000
RHD111	**(Not display)**	**(Not display)**	000
RHD112	**(Not display)**	**(Not display)**	000
RHD113	**(Not display)**	**(Not display)**	000
RHD114	**(Not display)**	**(Not display)**	000
RHD115	**(Not display)**	**(Not display)**	000
RHD116	**(Not display)**	**(Not display)**	000
RHD117	**(Not display)**	**(Not display)**	000
RHD118	**(Not display)**	**(Not display)**	000
RHD119	**(Not display)**	**(Not display)**	000
RHD120	**(Not display)**	**(Not display)**	000
RHD121	**(Not display)**	**(Not display)**	000
RHD122	**(Not display)**	**(Not display)**	000
RHD123	**(Not display)**	**(Not display)**	000
RHD124	**(Not display)**	**(Not display)**	000
RHD125	**(Not display)**	**(Not display)**	000
RHD126	**(Not display)**	**(Not display)**	000
RHD127	**(Not display)**	**(Not display)**	000
RHD128	**(Not display)**	**(Not display)**	000
RHD129	**(Not display)**	**(Not display)**	000
RHD130	**(Not display)**	**(Not display)**	000
RHD131	**(Not display)**	**(Not display)**	000
RHD132	**(Not display)**	**(Not display)**	000
RHD133	**(Not display)**	**(Not display)**	000
RHD134	**(Not display)**	**(Not display)**	000
RHD135	**(Not display)**	**(Not display)**	000
RHD136	**(Not display)**	**(Not display)**	000
RHD137	**(Not display)**	**(Not display)**	000
RHD138	**(Not display)**	**(Not display)**	000
RHD139	**(Not display)**	**(Not display)**	000
RHD140	**(Not display)**	**(Not display)**	000
RHD141	**(Not display)**	**(Not display)**	000
RHD142	**(Not display)**	**(Not display)**	000
RHD143	**(Not display)**	**(Not display)**	000
RHD144	**(Not display)**	**(Not display)**	000
RHD145	**(Not display)**	**(Not display)**	000
RHD146	**(Not display)**	**(Not display)**	000
RHD147	**(Not display)**	**(Not display)**	000
RHD148	**(Not display)**	**(Not display)**	000
RHD149	**(Not display)**	**(Not display)**	000
RHD150	**(Not display)**	**(Not display)**	000
RHD151	**(Not display)**	**(Not display)**	000

Item No.	Item name	Variable range	Initial setting value
RHD152	**(Not display)**	**(Not display)**	000
RHD153	**(Not display)**	**(Not display)**	000
RHD154	**(Not display)**	**(Not display)**	000
RHD155	**(Not display)**	**(Not display)**	000
RHD156	**(Not display)**	**(Not display)**	000
RHD157	**(Not display)**	**(Not display)**	000
RHD158	**(Not display)**	**(Not display)**	000
RHD159	**(Not display)**	**(Not display)**	000
RHD160	**(Not display)**	**(Not display)**	000
RHD161	**(Not display)**	**(Not display)**	000
RHD162	**(Not display)**	**(Not display)**	000
RHD163	**(Not display)**	**(Not display)**	000
RHD164	**(Not display)**	**(Not display)**	000
RHD165	**(Not display)**	**(Not display)**	000
RHD166	**(Not display)**	**(Not display)**	000
RHD167	**(Not display)**	**(Not display)**	000
RHD168	**(Not display)**	**(Not display)**	000
RHD169	**(Not display)**	**(Not display)**	000
RHD170	**(Not display)**	**(Not display)**	000

4.7 ADJUSTMENT PROCEDURE

4.7.1 CHECK ITEMS

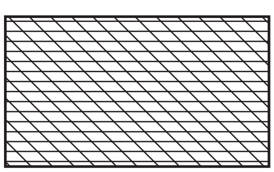
Item	Measuring instrument	Test point	Adjustment part	Description
X-RAY PROTECTOR check	Resistor [6.8kΩ 1/4W ±34Ω]	S1 connector 2 pin : X-Ray2 3 pin : X-Ray1 [DEF/ CONVEGENCE OUT PWB]		(1) Receive NTSC whole black signal. (2) Connect resistor 6.8kΩ (1/4W, ±34Ω) between 2 pin & 3 pin of the S1 connector. (3) Confirm that the X-RAY protector functions operated.

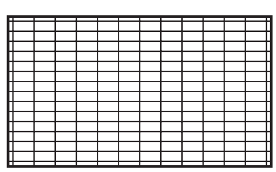


Item	Measuring instrument	Test point	Adjustment part	Description
HIGH VOLTAGE check	Signal generator HV voltmeter	CRT Anode		(1) Receive NTSC whole black signal. (2) Connect the HV voltmeter between CRT anode and GND. (3) Check the high voltage DC 31.0kV (+1.0kV / -1.3kv).

4.7.2 HORIZONTAL FREQUENCY ADJUSTMENT

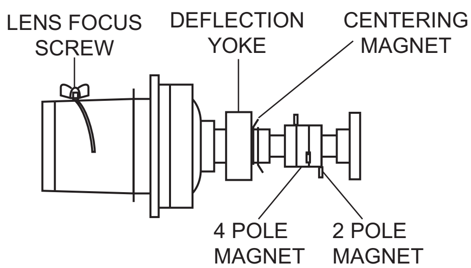
Item	Measuring instrument	Test point	Adjustment part	Description
H. FREQUENCY adjustment	Signal generator Remote control unit		[1.PICTURE/SOUND] D15 : H. FREQ. D18 : DEF. RST	(1) Receive NTSC crosshatch signal. (2) Select FULL mode with [ASPECT] key. (3) Select 1. PICTURE/SOUND from SERVICE MENU. (4) Select < D18 > (DEF. RST) and change the data 0 to 1 (free run). (5) While observing the screen, adjust the < D15 > (H. FREQ) so that an optimum horizontal synchronization is obtained. (see figure) (6) Press [MUTING] key to memorize the set value. (7) After adjustment, select < D18 > and change the data 1 to 0. (8) Press [MUTING] key to memorize the set value.


Unoptimum synchronization (Horizontal frequency difference)

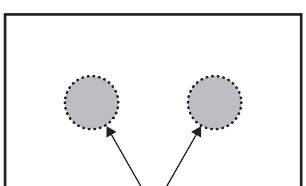

Optimum synchronization (Horizontal frequency optimal condition)

4.7.3 FOCUS & BEAM SPOT ADJUSTMENT

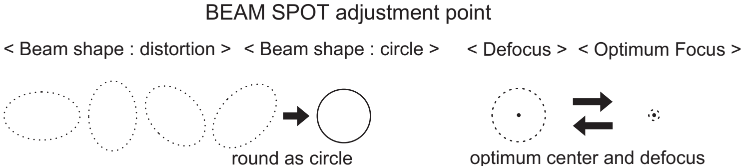
Item	Measuring instrument	Test point	Adjustment part	Description
FOCUS & BEAM SPOT adjustment	Signal generator Similar adhesive (Securing adhesive)		TEST MODE [5.CONVER OFF] R Def. yoke (DY) G Def. yoke (DY) B Def. yoke (DY) [PROJECTION UNIT] R LENS FOCUS screw G LENS FOCUS screw B LENS FOCUS screw [PROJECTION UNIT (LENS ASS'Y)] 4 pole magnet 2 pole magnet [PROJECTION UNIT (R / G / B CRT neck)] R FOCUS VR G FOCUS VR B FOCUS VR [FOCUS PACK]	(1) Receive NTSC crosshatch signal. (2) Select FULL mode with [ASPECT] key. (3) Select DYNAMIC mode with [VIDEO STATUS] key. (4) Select 5.CONVER OFF from TEST MODE menu, then dot pattern is appear. (5) Press [INPUT] key to appear crosshatch pattern. (6) Adjust the R, G and B DY position to mark straight horizontal line. **LENS FOCUS** (1) Makes a red single color. **NOTE:** When making a single color, while adjusting focus of one CRT, put the cap on other lens. (2) By turning the LENS FOCUS screw (in LENS ASS'Y), for optimum focus at the screen center. Check for absence of difference in the peripheral focus. If the peripheral focus is poor, slightly shift the center focus to obtain overall balanced focus. (3) In the same manner, produce green and blue single color and adjust their respective focus. (4) After adjustment, fixes a screw. **NOTE:** There is not a difference in the focus in the top and the bottom, on either side, in the diagonal. When the difference of the focus is big, it removes a main lens, and it puts a washer between the main lens and the coupler and adjusts it. **BEAM SPOT** (5) Change dot pattern with [INPUT] key. (6) Makes a red single color. (7) Turn the R FOCUS VR clockwise from just focus point, to set the dot diameter approx. to Ø30mm. (8) Turn the 4 pole magnet of the projection unit CRT neck and make beam shape round as circle on the position between center and both ends of the screen. (9) Adjust the R FOCUS VR for optimum focus at the position indicated in the figure. (10) Turn the 2 pole magnet of the CRT neck as optimum focus and defocus center should become the same point. (11) In the same manner, adjust for the green and blue single color focus. (12) Secure the 4 and 2 pole magnets with similar adhesive. **CRT FOCUS** (13) Receive NTSC crosshatch signal. (14) Select DYNAMIC mode with [VIDEO STATUS] key. (15) Makes a red single color. (16) Adjust the R FOCUS VR for optimum focus at the position indicated in the figure. (17) In the same manner, adjust for the green and blue single color focus.



PROJECTION UNIT & LENS ASS'Y
(CRT adjustment location)

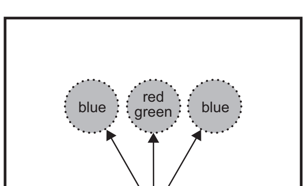


BEAM SPOT adjustment point



4 pole magnet adjustment

2 pole magnet adjustment



CRT FOCUS adjustment point

4.7.4 DEFLECTION & CONVERGENCE ADJUSTMENT

- The adjustment using the remote control unit is made on the basis of the initial setting values.
- The setting values which adjust the screen to the optimum condition can be different from the initial setting values.
- At first the adjustment in FULL mode should be done, then the data for the other ASPECT mode is corrected in the respective value at the same time.

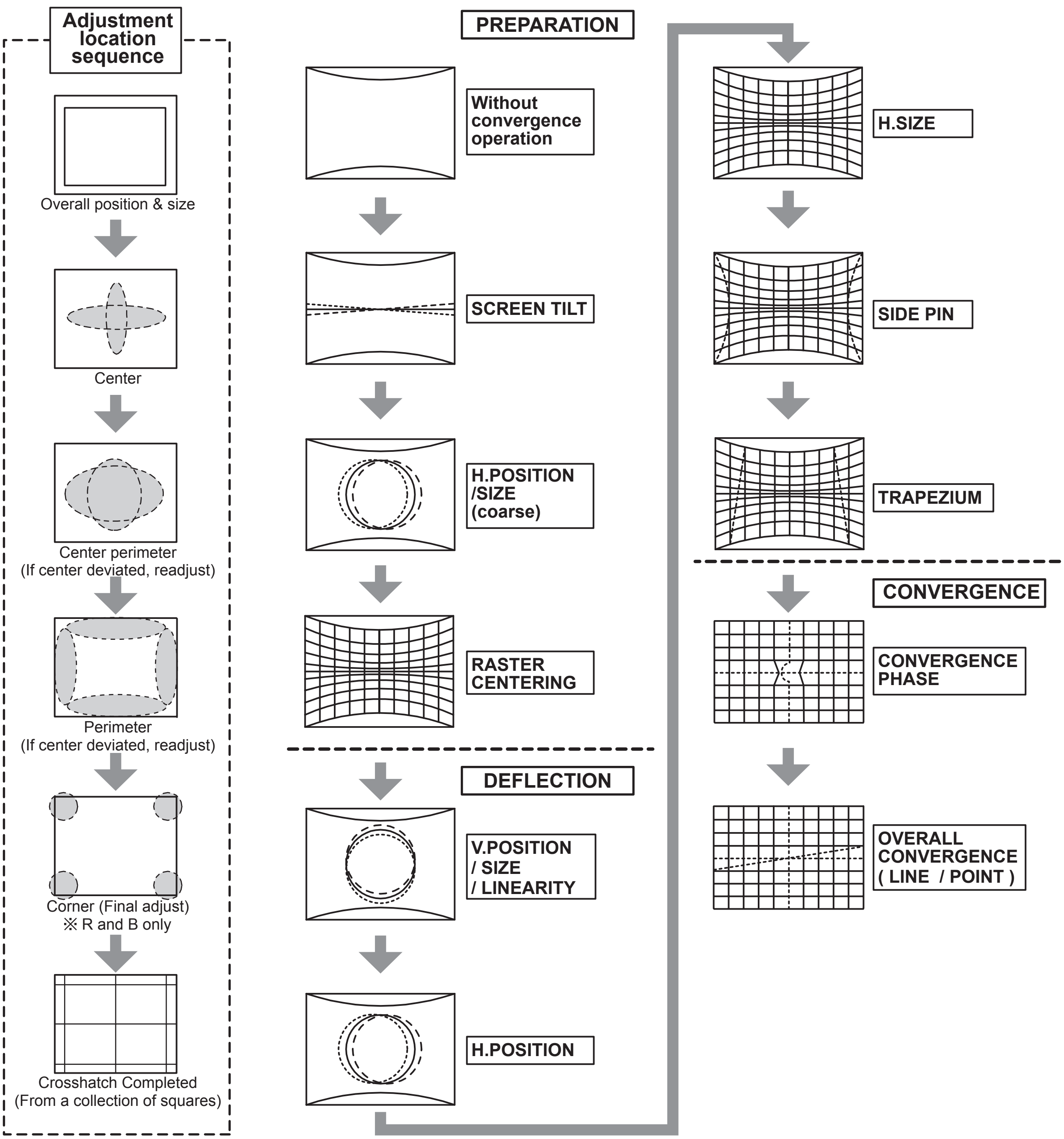
4.7.4.1 FLOWCHART OF ADJUSTMENT

CAUTION:

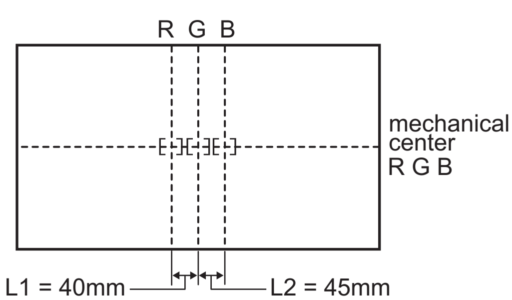
All adjustments of the DEFLECTION circuit for this model should be carried out under the status without convergence operation.
To enter the mode without convergence operation, select 1.PICTURE/SOUND and change the data in the setting item F62 from 0 to 1. (For details, please refer to the adjustment of DEFLECTION.)
As a result, you can get the screen as shown in bellow figure. Adjust the DEFLECTION circuit in order of the steps indicated by the downward arrows.

NOTE:

When every adjustment of the DEFLECTION circuit has completed, start the adjustment of convergence.

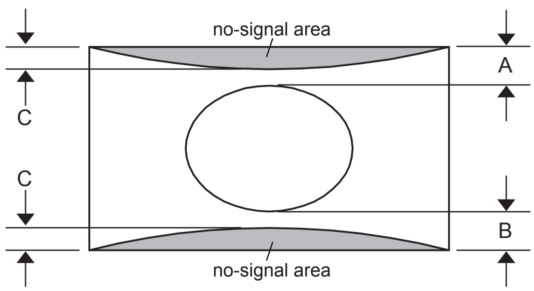


4.7.4.2 PREPARATION

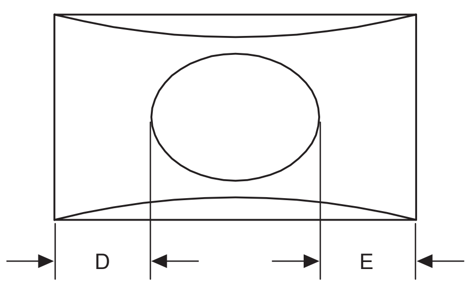
Item	Measuring instrument	Test point	Adjustment part	Description
SCREEN TILT adjustment	Signal generator Remote control unit		TEST MODE [5.CONVER OFF] G DEF. YOKE R DEF. YOKE B DEF. YOKE [PROJECTION UNIT]	• Confirm correct FOCUS adjustment. (1) Receive NTSC crosshatch signal. (2) Enter TEST MODE [5.CONVER OFF]. (3) Select crosshatch pattern with [INPUT] key. (4) Makes a green single color. **NOTE :** When making a single color, while adjusting of one CRT, put the cap on other lens. (5) Temporarily secure the G deflection yoke to the top of the neck and adjust the tilt of the deflection yoke so that the horizontal line at the center becomes flat. After adjustment, fasten the temporal screw. (6) Adjust the tilt of the R and B deflection yokes in the same manner as for green. **NOTE :** Make sure that the adjustment of CRT FOCUS is optimized at the center and at the fringe of the center in turn. If the proper adjustment has not been done, adjust FOCUS VR again.
H. POSITION / SIZE (coarse) adjustment	Signal generator Remote control unit		[1.PICTURE/SOUND] D03 : H. SIZE D14 : H. CENTER F62 : Without convergence operation	(1) Receive NTSC circle (or crosshatch) signal. (2) Select 1. PICTURE/SOUND from SERVICE MENU. (3) Select < F62 > (Without convergence operation) with [CH +] / [CH -] keys. (4) Change the data 0 to 1, then it makes picture without convergence operation. (5) Makes a green single color. **NOTE :** When making a single color, while adjusting of one CRT, put the cap on other lens. (6) Select < D03 > (H. SIZE) and shorten the level until and perpendicular amplitude of vibration with until the blanking in Left and Right and on either side can be seen. (7) Select < D14 > (H. CENTER) and adjust horizontal position to make the screen center and signal center. (8) Select < D03 > and adjust horizontal size to make screen picture approx. 92% of H-SIZE. (9) Press [MUTING] key to memorize the set value. (10) After adjustment, select < F62 > and change the data 1 to 0. (11) Press [MUTING] key to memorize the set value.
RASTER CENTERING adjustment	Signal generator Remote control unit		TEST MODE [5. CONVER OFF] G CENTERING magnet R CENTERING magnet B CENTERING magnet [DEF. YOKE]	**NOTE :** Carry out after finishing adjustment of H. POSITION and H. SIZE. (1) Receive NTSC crosshatch signal. (2) Enter TEST MODE [5.CONVER OFF] and select crosshatch pattern with [INPUT] key.. (3) Select crosshatch pattern with [INPUT] key. (4) Adjust G CENTERING magnet to make horizontal and vertical line center as mechanical center of screen. (5) Red and blue color too, are reflected by it. (6) Using R CENTERING magnet and B CENTERING magnet, adjusts for the line of the red(L1) and the blue(L2) to become the position of the left figure. **NOTE :** Vertical center position of the red and blue are the same as green.
				

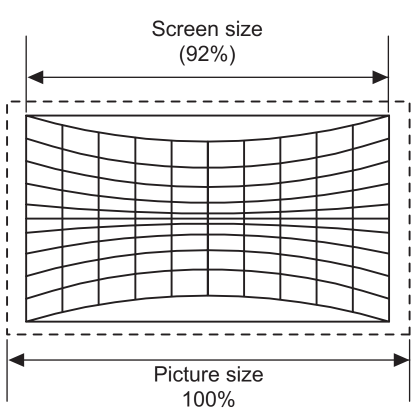
4.7.4.3 DEFLECTION ADJUSTMENT

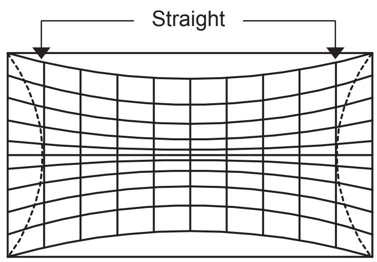
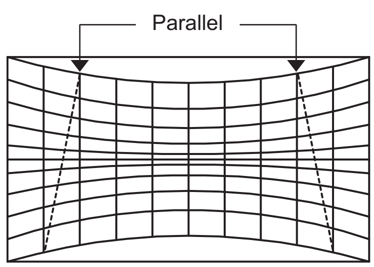
<table>
<tr><th>Item</th><th>Measuring instrument</th><th>Test point</th><th>Adjustment part</th><th>Description</th></tr>
<tr><td>V. POSITION / SIZE / LINEARITY adjustment</td><td>Signal generator

Remote control unit</td><td></td><td>[1.PICTURE/SOUND]
D01 : V. SIZE
D05 : V. LINE
D06 : V. CENT
F62 : Without convergence operation</td><td rowspan="2">• To memorize every time after finish adjustment on each mode.
(1) Receive NTSC circle pattern signal.
(2) Select FULL mode with [ASPECT] key.
(3) Select 1. PICTURE/SOUND from SERVICE MENU.
(4) Select < F62 > (Without convergence operation).
(5) Change the data 0 to 1, then it makes picture without convergence operation.
(6) Select < D01 > (V. SIZE), < D05 > (V. LINE) and < D06 > (V. CENT).
(7) Adjust < D01 >, < D05 > and < D06 > to make A = B (precision ±2mm), and adjust to make C same value as table.
(8) Press [MUTING] key to memorize the set value.
(9) After adjustment, select < F62 > and change the data 1 to 0.
(10) Press [MUTING] key to memorize the set value.
NOTE :
Do not adjust < D04 > (V. SCORE), if it is different vertical position after adjust vertical linearity, to adjust vertical position.</td></tr>
<tr><td colspan="4">

<table>
<tr><th></th><th>AV-48WP55</th><th>AV-56WP55</th><th>AV-65WP55</th></tr>
<tr><td>C</td><td>35mm</td><td>50mm</td><td>80mm</td></tr>
</table></td></tr>
<tr><td>H. POSITION adjustment</td><td>Signal generator

Remote control unit</td><td></td><td>[1.PICTURE/SOUND]
D14 : H. CENTER
F62 : Without convergence operation</td><td rowspan="2">(1) Receive NTSC circle pattern signal.
(2) Select FULL mode with [ASPECT] key.
(3) Select 1. PICTURE/SOUND from SERVICE MENU.
(4) Select < F62 > (Without convergence operation).
(5) Change the data 0 to 1, then it makes picture without convergence operation.
(6) Select < D14 > (H. CENTER).
(7) Adjust < D14 > to make D = E as shown figure.
(8) Press [MUTING] key to memorize the set value.
(9) After adjustment, select < F62 > and change the data 1 to 0.
(10) Press [MUTING] key to memorize the set value.</td></tr>
<tr><td colspan="4">
</td></tr>
<tr><td>H. SIZE adjustment</td><td>Signal generator

Remote control unit</td><td></td><td>[1.PICTURE/SOUND]
D03 : H. SIZE
F62 : Without convergence operation</td><td rowspan="2">(1) Receive NTSC crosshatch signal.
(2) Select FULL mode with [ASPECT] key.
(3) Select 1. PICTURE/SOUND from SERVICE MENU.
(4) Select < F62 > (Without convergence operation).
(5) Change the data 0 to 1, then it makes picture without convergence operation.
(6) Select < D03 > (H. SIZE).
(7) Adjust < D03 > to make sure that the vertical screen size of the picture size is 92%.
(8) Press [MUTING] key to memorize the set value.
(9) After adjustment, select < F62 > and change the data 1 to 0.
(10) Press [MUTING] key to memorize the set value.</td></tr>
<tr><td colspan="4">
</td></tr>
</table>

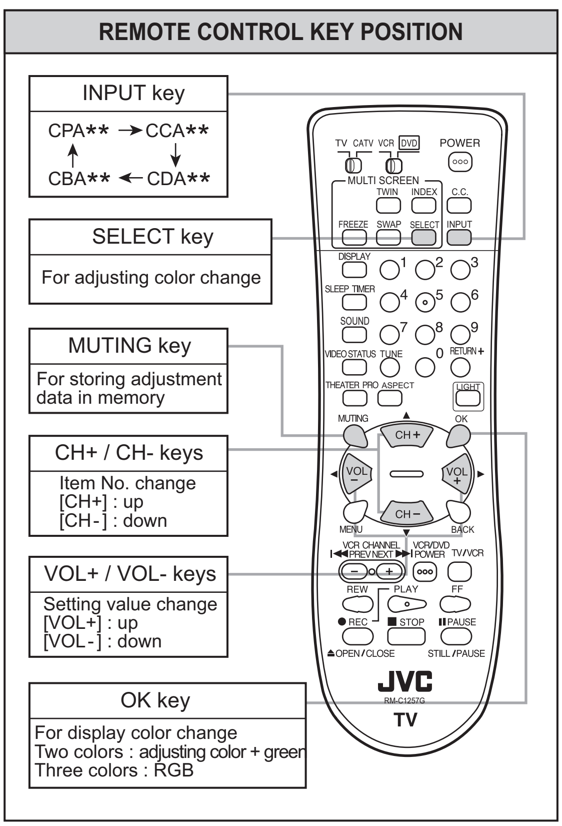
Item	Measuring instrument	Test point	Adjustment part	Description
SIDE PIN adjustment	Signal generator Remote control unit		[1.PICTURE/SOUND] D02 : EW D08 : BOT.CORN D09 : TOP.CORN F62 : Without convergence operation	(1) Receive NTSC crosshatch signal. (2) Select FULL mode with [ASPECT] key. (3) Select 1. PICTURE/SOUND from SERVICE MENU. (4) Select < F62 > (Without convergence operation). (5) Change the data 0 to 1, then it makes picture without convergence operation. (6) Select < D02 > (EW), < D08 > (BOT.CORN) and < D09 > (TOP.CORN). (7) Adjust < D02 >, < D08 >, < D09 > to make the vertical lines at the left and right edges of the screen straight. (8) Press [MUTING] key to memorize the set value. (9) After adjustment, select < F62 > and change the data 1 to 0. (10) Press [MUTING] key to memorize the set value. **NOTE :** After making adjustments, confirm that the horizontal position is properly adjusted. If the horizontal is out of alignment, readjust it. Adjust H. SIZE & SIDE PIN reparably.
				
TRAPEZIUM adjustment	Signal generator Remote control unit		[1.PICTURE/SOUND] D07 : EW.TRAP F62 : Without convergence operation	(1) Receive NTSC crosshatch signal. (2) Select FULL mode with [ASPECT] key. (3) Select 1. PICTURE/SOUND from SERVICE MENU. (4) Select < F62 > (Without convergence operation). (5) Change the data 0 to 1, then it makes picture without convergence operation. (6) Select < D07 > (EW.TRAP). (7) Adjust < D07 > to bring the vertical lines at the right and left edges of the screen parallel. (8) Press [MUTING] key to memorize the set value. (9) After adjustment, select < F62 > and change the data 1 to 0. (10) Press [MUTING] key to memorize the set value. **NOTE :** After making adjustments, confirm that the horizontal position is properly adjusted. If the horizontal is out of alignment, readjust it. Adjust H. SIZE & SIDE PIN reparably.
				

4.7.4.4 CONVERGENCE ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
CONVERGENCE PHASE [check]	Signal generator Remote control unit		[6.CONVER A] CPA04 : TPOV OFST CPA05 : FINEP CPA06 : STARTLIN A CPA07 : STARTLIN B CPA08 : CAU H2 CPA09 : COARS OFST CPA10 : V1OFSTA CPA11 : V1OFSTB	**NOTE:** Be sure to make it the value of Table-1. Supposing data differs, correct to the value of Table-1. When data is corrected (when the [MUTING] key is pushed), it is necessary to perform an AUTO CONVERGENCE PRESET, after a convergence adjusts exactly. (1) Receive NTSC crosshatch signal. (2) Select 6.CONVER A from SERVICE MENU. (3) Select < CPA > item with [INPUT] key. (4) Check and set data that < CPA04 > ~ < CPA11> are same value as table1. (5) Press [MUTING] key to memorize the set values.

Item No.	Item name	Initial setting value
CPA04	TPOV OFST	0
CPA05	FINEP	1245
CPA06	STARTLIN A	56
CPA07	STARTLIN B	-1
CPA08	CAU H2	0
CPA09	COARS OFST	-50
CPA10	V1OFSTA	7
CPA11	V1OFSTB	0

Table-1



Item	Measuring instrument	Test point	Adjustment part	Description
OVERALL CONVERGENCE (LINE) [check]	Signal generator Remote control unit		[6.CONVER A] CPA01 : FINE OFF CCA01 : H CENT CCA02 : H SIZE CCA03 : H LIN CCA04 : H SKEW CCA05 : EW PIN CCA06 : H BOW CCA07 : V CENT CCA08 : V SKEW CCA09 : V SIZE CCA10 : V LIN CCA11 : V KEY CCA12 :TB PIN	**NOTE:** Be sure to make it the value of Table-2. Supposing data differs, correct to the value of Table-2. When data is corrected (when the [MUTING] key is pushed), it is necessary to perform an AUTO CONVERGENCE PRESET, after a convergence adjusts exactly. (1) Receive NTSC crosshatch signal. (2) Select 6.CONVER A from SERVICE MENU. (3) Select < CPA01 > (FINE OFF). (4) Change the data 0 to1. (Clear the fine adjustment data) (5) Select < CCA > item with [INPUT] key. Then a green crosshatch pattern for adjustment will be displayed on the screen. (6) Check and set data < CCA01 > ~ < CCA11 > are same value as table2. (7) Press [SELECT] key to change the adjusting color to red and blue. **NOTE:** Press [OK] key to change the display colors. Whenever [OK] key is pressed, the menu will sequence in this order: "Two colors (adjusting color+green)" → "Three colors (RGB)" (8) Press [MUTING] key to memorize the set value. (9) Select < CPA01 >. (10) Change the < CPA01 > 1 to 0. (11) Press [MUTING] key to memorize the set values.

Item No.	Item name	Initial setting value		
		GREEN	RED	BLUE
CCA01	H CENT	0	-246	395
CCA02	H SIZE	-27	-54	16
CCA03	H LIN	-96	240	-348
CCA04	H SKEW	0	0	-10
CCA05	EW PIN	-91	-26	-17
CCA06	H BOW	0	-30	21
CCA07	V CENT	-19	8	12
CCA08	V SKEW	0	0	4
CCA09	V SIZE	-108	-77	-105
CCA10	V. LIN	15	12	8
CCA11	V. KEY	0	114	-77
CCA12	TB PIN	280	153	230

Table-2

Item	Measuring instrument	Test point	Adjustment part	Description
OVERALL CONVERGENCE (POINT) adjustment	Signal generator Remote control unit		[7.CONVER B]	**NOTE:** Perform this adjustment after performing OVERALL CONVERGENCE (LINE) check. It adjusts displaying and checking adjustment data by the [DISPLAY] key. Adjust in order of Area A, Area B, Area C and Area D.

(1) Receive NTSC crosshatch signal.
(2) Select 7.CONVER B from SERVICE MENU. Then appear green crosshatch pattern for adjustment. (See Fig.1)
(3) Press [DISPLAY] key for displaying and checking adjustment data.
(4) Press [2] / [4] / [5] / [6] / [8] keys respectively, move the cursor to the adjusting point.
(5) Press [CH+] / [CH-] / [VOL+] / [VOL-] keys, adjust the position of the adjusting point so that it is located at the place as shown in Fig.2.
(6) Adjust Area A.
(7) Adjust Area B.
(8) Adjust Area C.
(9) Adjust Area D. It adjusts toward an outside from the inner side of a screen. (e.g. H#3 > H#2 > ---)
H#0 is fixed data with the value inputted by adjustment of Area C. When the point of H#0 needs to be adjusted, adjusts the data of H#1 and H#2.
If the data of H#1 adjusts H#0, H#2 will move, the data of H#2 adjusts H#1 and H#2. It repeats if needed. (See Fig.3)
(10) Press [SELECT] key to select the red and blue crosshatch patterns, respectively, and make convergence adjustments so that they align with the adjusting points of the green crosshatch pattern (reference color).
(11) Press [OK] key to change the display colors to three colors from two colors (adjusting color + green) and make sure that the convergence has been aligned with each other.
(12) Press [MUTING] key to memorize the set values.

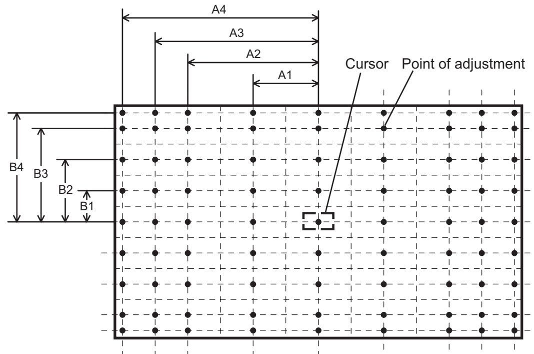


Fig.1

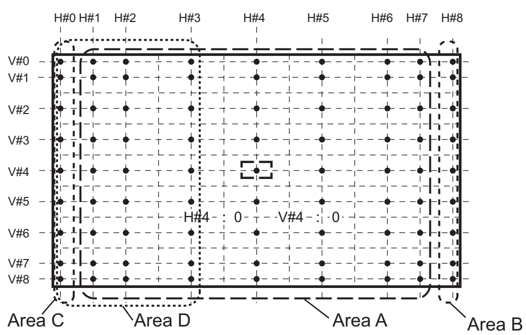
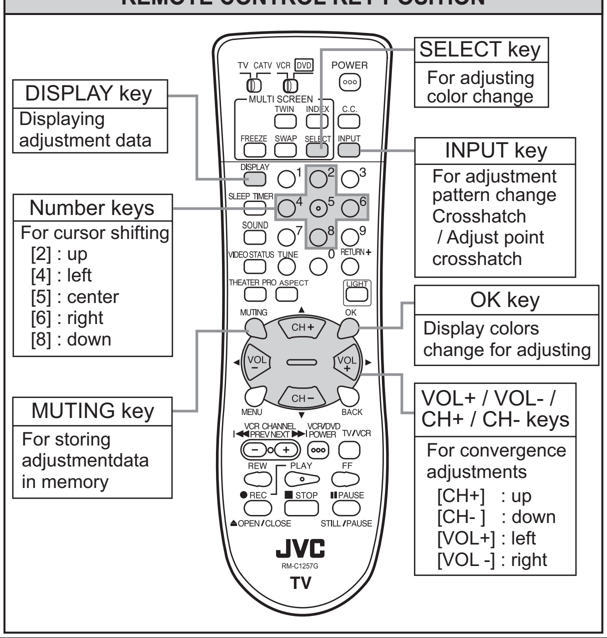


Fig.2

	A1	A2	A3	A4	B1	B2	B3	B3
AV-48WP55	174	348	435	522	82	164	246	287
AV-56WP55	204	407	509	611	96	192	287	335
AV-65WP55	237	473	592	710	111	222	333	388

SPAN TABLE (mm)

REMOTE CONTROL KEY POSITION



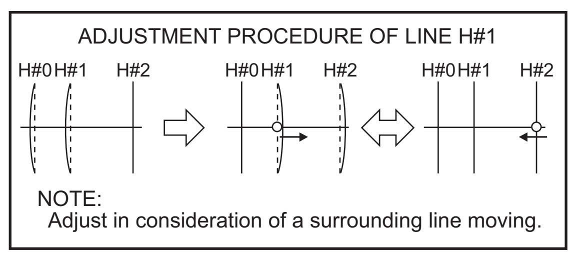


Fig.3

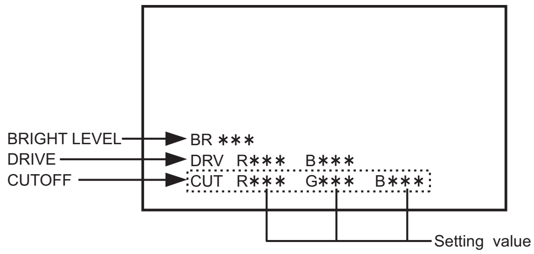
4.7.5 VIDEO ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
RGB CUTOFF adjustment	Signal generator Oscilloscope Remote control unit	TP-R [R CRT SOCKET PWB] TP-G [G CRT SOCKET PWB] TP-B [B CRT SOCKET PWB]	[1.PICTURE/SOUND] S14: CUTOF R S16: CUTOF G S18: CUTOF B R SCREEN VR G SCREEN VR B SCREEN VR [FOCUS PACK]	(1) Receive NTSC signal (include 0% or -3% black). (2) Select STANDARD mode with [VIDEO STATUS] key. (3) Select FULL mode with [ASPECT] key. (4) Set the COLOR TEMP is LOW mode. (5) Connect the oscilloscope to TP-G. (6) Select 1.PICTURE/SOUND from SERVICE MENU. (7) Select < S03 > (BRIGHT). (8) Set < S03 > to 127. (9) Select < S16 > (CUTOF G). (10) Adjust < S16 > so that the 0% or -3% signal portion and the 100% signal portion of both sides may become the 180V. (11) Press [MUTING] key to memorize the set value. (12) Receive 480i component signal (include 0% or -3% black). (13) Select < S03 >. (14) Set < S03 > to 127. (15) Select < S16 >. (16) Set < S16 > same as memorized NTSC value. (17) Select STANDARD mode with [VIDEO STATUS] key. (18) Select FULL mode with [ASPECT] key. (19) The COLOR TEMP set at the LOW mode. (20) Set 1080i component signal (include 0% or -3% black). (21) Select < S03 >. (22) Set < S03 > to 127. (23) Select < S16 >. (24) Set < S16 > same as memorized NTSC value. (25) Connect the oscilloscope to TP-R and < S14 > (CUTOF R) adjust same manner as for 6. ~ 13. above. (26) Connect the oscilloscope to TP-B and < S18 > (CUTOF B) adjust same manner as for 6. ~ 13. above. (27) Adjust SCREEN VR for RGB respectively, so that the black (3%) becomes faintly whitish. **NOTE :** If it is difficult to adjust the SCREEN precisely, adjust the SCREEN VR for one of three colors while masking other two colors.

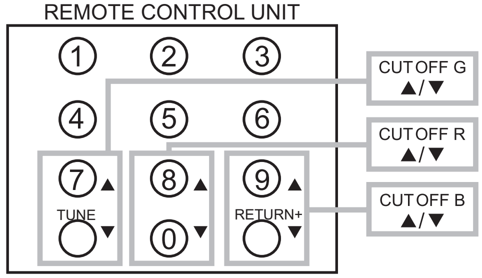
Item No.	Item name	Initial setting value
S03	BRIGHT	127
S14	CUTOF R	185
S16	CUTOF G	185
S18	CUTOF B	185
S20	CUTOFSWR	001
S21	CUTOFSWG	001
S22	CUTOFSWB	001

Item	Measuring instrument	Test point	Adjustment part	Description
WHITE BALANCE (LOW LIGHT) adjustment	Signal generator Remote control unit		[3.WHITE BALANCE] BR CUT R CUT B	**NOTE :** Before starting the adjustment, warm up the unit for more than 30 minutes. (1) Receive NTSC gray scale signal (include 0% black). (2) Select STANDARD mode with [VIDEO STATUS] key. (3) Set the COLOR TEMP is LOW mode. (4) Select 3.WHITE BALANCE from SERVICE MENU. (5) Select < BR >, < DRV R >, < DRV B >, < CUT R >, < CUT G > and < CUT B >. (6) Set the initial setting value. (7) Adjust < BR > so that the LOW-LIGHT should be visible. (8) Adjust using [8] / [0] keys and [9] / [RETURN +] keys so that a black portion may become black. (9) Press [MUTING] key to memorize the set values. (10) Input 480i component signal (include 0% black) from COMPONENT VIDEO terminal. (11) Repeat steps 5 ~ 9 above. (12) Input 1080i component signal (include 0% black) from COMPONENT VIDEO terminal. (13) Repeat steps 5 ~ 9 above. **NOTE:** • 3. WHITE BALANCE < BR >, < DRV R >, < DRV B >, < CUT R >, < CUT G > and < CUT B > are equal to 1. PICTURE/SOUND < S03 >, < S10 >, < S12 >, < S14 >, < S16 > and < S18 >. • 3. WHITE BALANCE < BR >, < DRV R > and < DRV B > are same value as 1. PICTURE/SOUND < S03 >, < S10 > and < S12 >. • 3. WHITE BALANCE < CUT R >, < CUT G > and < CUT B > are same value as 1. PICTURE/SOUND < S14 >, < S16 > and < S18 > plus 30. • For example, 3.WHITE BALANCE < BR > value was changed from 127 to 120, 1.PICTURE/SOUND < S03 > value was changed from 127 to 120 automatically. 3. WHITE BALANCE < CUT R > value was changed from 215 to 210, 1.PICTURE/SOUND < S03 > value was changed from 185 to 180 automatically.

3. WHITE BALANCE



REMOTE CONTROL UNIT

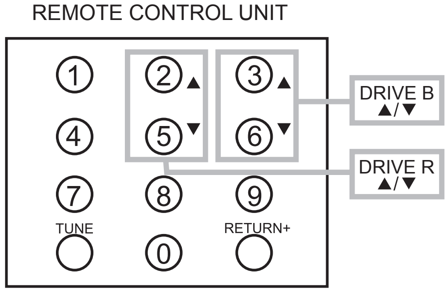


1.PICTURE/SOUND			3.WHITE BALANCE	
Item No.	Item name	Initial setting value	Item name	Initial setting value
S03	BRIGHT	127	BR	127
S10	DRIVE R	085	DRV R	085
S12	DRIVE B	085	DRV B	085
S14	CUTOF R	185	CUT R	215
S16	CUTOF G	185	CUT G	215
S18	CUTOF B	185	CUT B	215

Item	Measuring instrument	Test point	Adjustment part	Description
WHITE BALANCE (HIGH LIGHT) adjustment	Signal generator Remote control unit		[1.PICTURE/SOUND] S10: DRIVE R S12: DRIVE B [3.WHITE BALANCE] DRV R DRV B	(1) Receive NTSC grayscale signal (include 75% white). (2) Select STANDARD mode with [VIDEO STATUS] key. (3) Set the COLOR TEMP is LOW mode. (4) Select 1.PICTER/SOUND from SERVICE MENU. (5) Select < S10 > (DRIVE R) and < S12 > (DRIVE B). (6) Set the initial setting value. (7) Select 3.WHITE BALANCE from SERVICE MENU. (8) Adjust using [2] / [5]] keys and [3] / [6] keys so that the natural white should be visible on 75% white. (9) Press [MUTING] key to memorize the set value. (10) Input 480i component grayscale signal (include 75% white) from COMPONENT VIDEO terminal. (11) Repeat steps 4 ~ 9 above. (12) Input 1080i component grayscale signal (include 75% white) from COMPONENT VIDEO terminal. (13) Repeat steps 4 ~ 9 above.

Item \ Signal	Initial setting value		
	NTSC	480i	1080i
S10	089	052	057
S12	108	107	109

REMOTE CONTROL UNIT



Item	Measuring instrument	Test point	Adjustment part	Description
SUB BRIGHT adjustment	Signal generator Remote control unit		[1.PICTURE/SOUND] S03: BRIGHT	(1) Receive NTSC signal (include 0% or -2% black). (2) Select STANDARD mode with [VIDEO STATUS] key. (3) Set the COLOR TEMP is LOW mode. (4) Select 1.PICTURE/SOUND from SERVICE MENU. (5) Select < S03 > (BRIGHT). (6) Set the initial setting value. (See Table-1) (7) If the brightness is not the best with the initial setting value, make fine adjustment until you get the best brightness. (8) Press [MUTING] key to memorize the set values. (9) Select THEATER mode with [VIDEO STATUS] key. (10) Repeat steps 4 ~ 8 above. (11) Input 480i component signal (include 0% or -2% black) from COMPONENT VIDEO terminal. (12) Repeat steps 2 ~ 10 above. (13) Input 1080i component signal (include 0% or -2% black) from COMPONENT VIDEO terminal. (14) Repeat steps 2 ~ 10 above.

Item \ Signal	Setting value					
	NTSC		480i		1080i	
	STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER
S03	118	118	118	118	118	118

Table-1

Item	Measuring instrument	Test point	Adjustment part	Description
SUB CONTRAST adjustment (1)	Signal generator Remote control unit		[1.PICTURE/SOUND] S04: CONTRAST	**[Method of adjustment without measuring instrument]** (1) Receive NTSC glay scale signal. (2) Select STANDARD mode with [VIDEO STATUS] key. (3) Set the COLOR TEMP is LOW mode. (4) Select 1.PICTURE/SOUND from SERVICE MENU. (5) Select < S04 > (CONTRAST). (6) Set the initial setting value. (See Table-2) (7) If the contrast is not the best with the initial setting value, make fine adjustment of the < S04 > until you get the optimum contrast. (8) Press [MUTING] key to memorize the set values. (9) Select THEATER mode with [VIDEO STATUS] key. (10) Repeat steps 4 ~ 8 above. (11) Input 480i component black & white signal from COMPONENT VIDEO terminal. (12) Repeat steps 2 ~ 10 above. (13) Receive 1080i component black & white signal from COMPONENT VIDEO terminal. (14) Repeat steps 2 ~ 10 above.

Item \ Signal	Setting value					
	NTSC		480i		1080i	
	STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER
S04	054	054	054	054	054	054

Table-2

Item	Measuring instrument	Test point	Adjustment part	Description
SUB CONTRAST adjustment (2)	Signal generator Oscilloscope Remote control unit	TP-G [G CRT SOCKET PWB]	[1.PICTURE/SOUND] S04: CONTRAST	**[Method of adjustment with measuring instrument]** (1) Receive NTSC gray scale signal (include -3%). (2) Select STANDARD mode with [VIDEO STATUS] key. (3) Select FULL mode with [ASPECT] key. (4) Set the COLOR TEMP is LOW mode. (5) Connect the oscilloscope to TP-G. (6) Select 1.PICTURE/SOUND from SERVICE MENU. (7) Select < S04 > (CONTRAST). (8) Adjust < S04 > so that the -3% signal portion and the 100% signal portion of both sides may become the follow table voltage. (9) Press [MUTING] key to memorize the set value. (10) Select THEATER mode with [VIDEO STATUS] key. (11) Repeat steps 8 ~ 9 above. (12) Receive 480i component gray scale signal (include -3%). (13) Repeat steps 2 ~ 11 above. (14) Set 1080i component gray scale signal (include -3%). (15) Repeat steps 2 ~ 11 above.

SETTING VOLTAGE [V(p-p)]

Video Status \ Signal	NTSC	480i	1080i
STANDARD	68	80	80
THEATER	60	65	60

Table-3

Item	Measuring instrument	Test point	Adjustment part	Description
SUB COLOR / SUB TINT / B-Y GAIN adjustment (1)	Signal generator Remote control unit	TP-R [R CRT SOCKET PWB] TP-B [B CRT SOCKET PWB] TP-E (GND)	[1.PICTURE/SOUND] S01 : COLOR S02 : TINT S07 : B-Y	**[Method of adjustment without measuring instrument]** (1) Receive NTSC color bar signal (include 75% white). (2) Select STANDARD mode with [VIDEO STATUS] key. (3) Select 1.PICTURE/SOUND from SERVICE MENU. (4) Select < S01 > (COLOR) and < S02 > (TINT). (5) Set the initial setting value. (6) If the color or tint is not the best with the initial setting values, make fine adjustment until you get the best color or the best tint. (7) Select < S07 > (B-Y). (8) Set the initial setting value. (9) If the color bar is not clearly with the initial setting value, make fine adjustment until you get the clearly color bar. (10) Press [MUTING] key to memorize the set value. (11) Select THEATER mode with [VIDEO STATUS] key. (12) Repeat steps 3 ~ 10 above. (13) Input 480i component color bar signal from COMPONENT VIDEO terminal. (14) Repeat steps 2 ~ 12 above. (15) Input 480p component color bar signal from COMPONENT VIDEO terminal. (16) Repeat steps 2 ~ 12 above. (17) Input 1080i component color bar signal from COMPONENT VIDEO terminal. (18) Repeat steps 2 ~ 12 above.

Signal / Item	Initial setting value							
	NTSC		480i		480p		720p / 1080i	
	STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER
S01	096	083	085	075	079	076	074	071
S02	060	050	062	068	059	066	065	065
S07	017	027	012	024	013	018	019	020

Item	Measuring instrument	Test point	Adjustment part	Description
SUB COLOR / SUB TINT / B-Y GAIN adjustment (2)	Signal generator Oscilloscope Remote control unit	TP-R [R CRT SOCKET PWB] TP-B [B CRT SOCKET PWB] TP-E (GND)	[1.PICTURE/SOUND] S01 : COLOR S02 : TINT S07 : B-Y	**[Method of adjustment with measuring instrument]** (1) Receive NTSC color bar signal (include 75% white). (2) Select STANDARD mode with [VIDEO STATUS] key. (3) Connect the oscilloscope to TP-R. (4) Select 1.PICTURE/SOUND from SERVICE MENU. (5) Select < S01 > (COLOR) and < S02 > (TINT). (6) Adjust < S01 > and < S02 > to be following setting value A[V]. (Refer to the bellow table) (7) Press [MUTING] key to memorize the set values. (8) Select THEATER mode with [VIDEO STATUS] key. (9) Adjust < S01 > and < S02 > to be following setting value B[V] same as above. (Refer to the table) (10) Press [MUTING] key to memorize the set values. (11) Select STANDARD mode with [VIDEO STATUS] key. (12) Connect the oscilloscope to TP-B. (13) Adjust < S07 > (B-Y) to be setting value C[V]. (Refer to the table) (14) Press [MUTING] key to memorize the set values. (15) Select THEATER mode with [VIDEO STATUS] key. (16) Adjust < S07 > to be setting value D[V]. (Refer to the table) (17) Press [MUTING] key to memorize the set values. (18) Confirm that LOW-LIGHT is not different after adjusting. If it is green or magenta, to adjust LOW-LIGHT again. If adjust again, to set offset value again. (19) Input 480i component color bar from COMPONENT VIDEO terminal. (20) Repeat steps 2 ~ 18 above. (21) Input 480p component color bar from COMPONENT VIDEO terminal. (22) Repeat steps 2 ~ 18 above. (23) Input 1080i component color bar from COMPONENT VIDEO terminal. (24) Repeat steps 2 ~ 18 above.

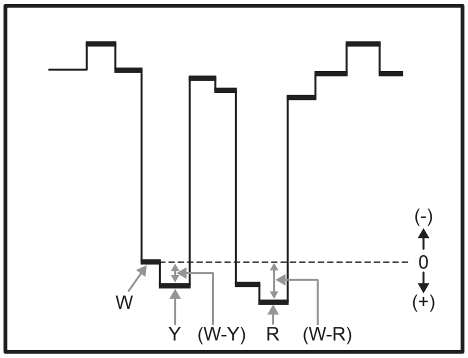


Fig.1

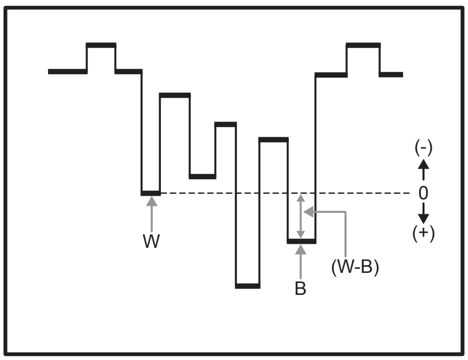


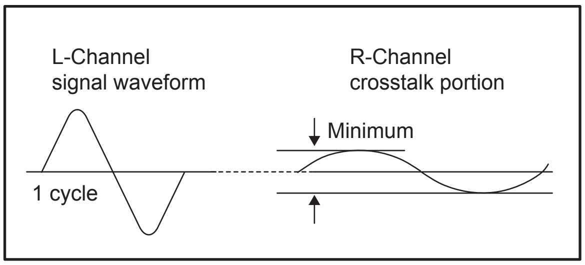
Fig.2

Setting item / Signal	Setting value [V]					
	A		B		C	D
	STANDARD		THEATER		STANDARD	THEATER
	S01 (W-R)	S02 (W-Y)	S01 (W-R)	S02 (W-Y)	S07 (W-B)	S07 (W-B)
NTSC	+41	+15	+26	+9	+20	+15
480i	+22	+7	+12	+7	+4	-7
480p	+33	+18	+16	+7	+2	-4
1080i	+27	+12	+12	+5	+2	-4

Table

4.7.6 AUDIO (MTS) ADJUSTMENT

Item	Measuring instrument	Test point	Adjustment part	Description
MTS INPUT LEVEL check	Remote control unit		[1.PICTURE/SOUND] A01 : IN LEVEL	(1) Select 1.PICTURE / SOUND from SERVICE MENU. (2) Select < A01 > (IN LEVEL). (3) Verify that < A01 > is set at its initial setting value.
MTS SEPARATION adjustment	TV audio multiplex signal generator Oscilloscope Remote control unit	AUDIO OUT L output R output	[1.PICTURE/SOUND] A02: LOW SEP. A03 : HI SEP.	(1) Input stereo L signal (300Hz) from the TV audio multiplex signal generator to the antenna terminal. (2) Connect an oscilloscope to L OUTPUT pin of the AUDIO OUT, and display one cycle portion of the 300Hz signal. (3) Change the connection of the oscilloscope to R OUTPUT pin of the AUDIO OUT, and enlarge the voltage axis. (4) Select < A02 > (LOW SEP.). (5) Set the initial setting value of < A02 >. (6) Adjust < A02 > so that the stroke element of the 300Hz signal will become minimum. (7) Change the signal to 3kHz, and similarly adjust < A03 > (HI SEP.). (8) Press [MUTING] key to memorize the set values.



SECTION 5
TROUBLESHOOTING

5.1 SELF-DIAGNOSIS FUNCTIONS

- This model has self-check functions that inform of the failure of the TV by detecting abnormality.
- Operational state is always monitored and the identified is memorized on the record.

Therefore, diagnosis may be prevented against expectations if "NG" are indicated in many items. When recurrence of symptoms can be predicted, erase (reset) the history of failure and allow the unit to again record the results of diagnosis.

5.1.1 HOW TO ENTER THE SELF-DIAGNOSIS MODE

(1) Set the < SLEEP TIMER 30 MIN. > with [SLEEP TIMER] key. (Fig.1)
(2) During the < SLEEP TIMER 30 MIN. > display, press [DISPLAY] key and [VIDEO STATUS] key at the same time.
(3) Then < TEST MODE > screen is displayed. (Fig.2)
(4) Press [4] key then < SELF-CHECK > screen is appear. (Fig.3)

5.1.2 HOW TO EXIT FROM THE SELF-DIAGNOSIS MODE

With initialization

By using the remote control unit, turn the power off. At this time, the failure record is cleared.

With not initialization

(1) Take off the AC plug from the wall outlet. At this time, the failure record is not cleared.
(2) Press the [BACK] key the SELF-CHECK screen return to TEST MODE screen.

5.1.3 EXPLANATION FOR ACTIVATION OF SELF-DIAGNOSIS FUNCTIONS

- The latest failure is stored on the record at the end. The failure record for each check item is counted to the number of 9 at the maximum, When more than 9 failures are stored on the record, the counter remains stopped at 9.
- SYNC is neither counted nor stored in memory.
- Because of the timing of Vcc start-up and shut-down of the IC connecting to the I^2C bus during which the power is turned on and off, the operation may be interpreted as an error. In order to avoid the misinterpretation, the self-check functions should be started at about 3 seconds after the power is turned on.

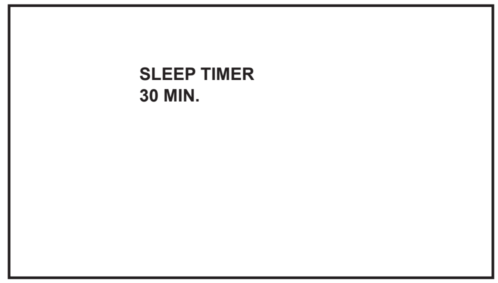


Fig.1

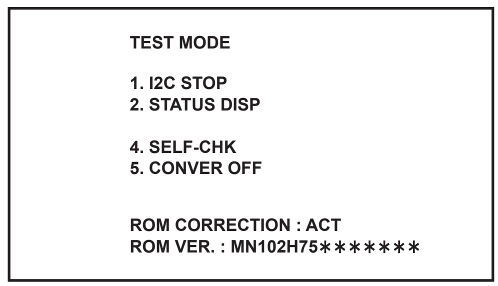


Fig.2

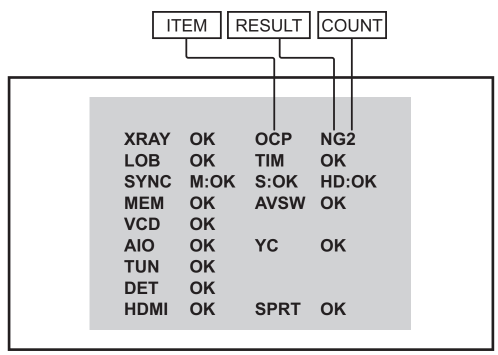


Fig.3
SELF-CHECK SCREEN

Indication	Check item	Details of detection	Method of detection
XRAY	X-ray radiation protection	------	------
OCP	B1 over-current protection	B1 over-current is detected. Q971 : DEF & CONVERGENCE OUT PWB	At about 3 seconds after the power is turned on, the self-check function starts. If NG is detected for 200ms, the power is turned off automatically.
LOB	Low B short protection	Operation of low B short protection circuit. Q1961(5V), Q1962(9V) : MAIN PWB	At about 3 seconds after the power is turned on, the self-check function starts. If NG is detected for 200ms, the power is turned off automatically.
TIM	Timer	The AC power frequency is changed as follows : 50Hz → 60Hz 60Hz → 50Hz IC1701(MICOM) : 17pin	Periodically check the power frequency by counting the AC pulse and monitor whether or not the frequency is changed except for the time immediately after resetting.

Indication	Check item	Details of detection	Method of detection
SYNC	Presence or absence of synchronized signal	Presence of synchronized signal. HD : Component signal M : NTSC main signal S : NTSC sub signal IC1301(AN15394A) : MI-COM & DIST MODULE PWB	When entering the self-check mode, "OK" is shown. While running the mode with picture signal, if the synchronized signal is disappeared, "NG" is shown.
MEM	Memory (EEP-ROM)	ACK is returned when I^2C traffic is carried out. IC1703(MEMORY) : MI-COM & DIST MODULE PWB	The state is monitored every time when I^2C traffic is carried out. Then the state is counted as a failure if ACK is not returned.
AVSW	AV switch	Ditto IC1301(AN15852A) and IC1501(CXA2069Q) : MAIN PWB	Ditto
VCD	Video process (RGB process)	Ditto IC1301(AN15394A) : MI-COM & DIST MODULE PWB	Ditto
AIO	Audio process (MTS decode / audio control)	Ditto IC1502(M62320) : MAIN PWB	Ditto
YC	3D YC separation	Ditto IC3001(MN82832) : MI-COM & DIST MODULE PWB	Ditto
TUN	RF tuner	Ditto RF tuner	Ditto
DET	DIST process	Ditto IC201(JCC5055) : MI-COM & DIST MODULE PWB	Ditto
HDMI	Digital input process [AV-65WP55]	Ditto IC001(SiI9993) : DIGITAL INPUT MODULE PWB	Ditto
SPRT	----	----	----

5.1.4 SELF-CHECK DISPLAY LED

The self-check results are shown on the following LED display.
Method of indication when the raster is not displayed.

Each failure is shown by turning POWER LED on and off at specified intervals.

- For X-ray radiation protection, B1 over-current protection, low B short protection and CRT neck broken protection, the power of the TV is turned off if NG is detected. Immediately after the power is turned off, POWER LED will be turning on and off. When the power is turned off, you cannot turn the power on again until the AC plug is taken out and put in again.

Item	POWER LED ON / OFF intervals
X-ray radiation protection	Turning on and off 0.1-second intervals
B1 over-current protection	Turning on and off 1-second intervals
Low B short protection	Turning on and off 2-second intervals
CRT neck broken protection	Turning on and off 3-second intervals

JVC SERVICE & ENGINEERING COMPANY OF AMERICA
DIVISION OF JVC AMERICAS CORP.
www.jvcservice.com(US Only)

JVC CANADA INC.
Head office : 21 Finchdene Square Scarborough, Ontario M1X 1A7 (416)293-1311

(No.YA097)

Printed in Japan
WPC